# HCD-V717

# SERVICE MANUAL

*E Model*
*Chinese Model*
*Tourist Model*

HCD-V717 is the Amplifier, Video CD player, Tape Deck and Tuner section in MHC-V717.

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| | | |
|---|---|---|
| CD Section | Model Name Using Similar Mechanism | HCD-V707 |
| | CD Mechanism Type | CDM38L-5BD24AL |
| | Base Unit Type | BU-5BD24AL |
| | Optical Pick-up Type | KSS-213D/Q-NP |
| TAPE DECK Section | Model Name Using Similar Mechanism | HCD-GRX7 |
| | Tape Transport Mechanism Type | TCM-230AWR1/ 230PWR1 |

## SPECIFICATIONS

### Amplifier section

The following measured at AC 110, 220 V 50/60 Hz
DIN power output (rated) 85 + 85 watts
(8 ohms at 1 kHz, DIN)
Continuous RMS power output (reference)
110 + 110 watts
(8 ohms at 1 kHz,
10% THD)
The following measured at AC 120, 240 V 50/60 Hz
DIN power output (rated) 105 + 105 watts
(8 ohms at 1 kHz, DIN)
Continuous RMS power output (reference)
130 + 130 watts
(8 ohms at 1 kHz,
10% THD)
Peak music power output (reference)
1500 watts

Inputs
MD/VIDEO (AUDIO) IN (phono jacks):
voltage 450/250 mV,
impedance 47 kilohms
MIC 1/2 (phone jack): sensitivity 1 mV,
impedance 10 kilohms

Outputs
MD/VIDEO (AUDIO) OUT (phono jacks):
voltage 250 mV
impedance 1 kilohms
VIDEO OUT (phono jack): max. output level
1Vp-p, unbalanced, Sync
negative, load impedance
75 ohms
S-VIDEO OUT (4-pin/mini-DIN jack):
Y: 1Vp-p, unbalanced,
Sync negative,
C: 0.286Vp-p,
load impedance 75 ohms
PHONES (stereo phone jack):
accepts headphones of 8
ohms or more
SPEAKER: accepts impedance of 8 to
16 ohms
SUPER WOOFER: Voltage 1 V, impedance 1
kilohm

– Continued on next page –

## MINI Hi-Fi COMPONENT SYSTEM

MICROFILM

SONY®

## VIDEO CD/CD player section

| | |
|---|---|
| System | Compact disc and digital audio and video system |
| Laser | Semiconductor laser (λ=780nm)<br>Emission duration: continuous |
| Laser output | Max. 44.6 μW*<br>*This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block with 7 mm aperture. |
| Wavelength | 780 – 790 nm |
| Frequency response | 2 Hz – 20 kHz (±0.5 dB) |
| Signal-to-noise ratio | More than 90 dB |
| Dynamic range | More than 90 dB |
| Video color system format | NTSC, PAL |

CD OPTICAL DIGITAL OUT
(Square optical connector jack, rear panel)

| | |
|---|---|
| Wavelength | 600 nm |
| Output Level | –18 dBm |

## Tape player section

| | |
|---|---|
| Recording system | 4-track 2-channel stereo |
| Frequency response (DOLBY NR OFF) | 40 – 13,000 Hz (±3 dB), using Sony TYPE I cassette<br>40 – 14,000 Hz (±3 dB), using Sony TYPE II cassette |

## Tuner section

FM stereo, FM/AM superheterodyne tuner

### FM tuner section

| | |
|---|---|
| Tuning range | |
| 2 band models: | 87.5 – 108.0 MHz |
| 3 band (FM–MW–SW) models: | 87.5 – 108.0 MHz |
| Antenna | FM lead antenna |
| Antenna terminals | 75 ohm unbalanced |
| Intermediate frequency | 10.7 MHz |

### AM tuner section

| | |
|---|---|
| Tuning range | |
| 2 Band type: | 531 – 1,602 kHz (with the interval set at 9 kHz)<br>530 – 1,710 kHz (with the interval set at 10 kHz) |
| 3 Band type: | |
| MW: | 531 – 1,602 kHz (with the interval set at 9 kHz)<br>530 – 1,710 kHz (with the interval set at 10 kHz) |
| SW: | 5.95 – 17.90 MHz (with the interval set at 5 kHz) |
| Antenna | AM loop antenna |
| Antenna terminals | External antenna terminal |
| Intermediate frequency | 450 kHz |

## General

| | |
|---|---|
| Power requirements | |
| Thai and Chinese models: | 220 V AC, 50/60 Hz |
| Other models: | 110 - 120 V or 220 - 240 V AC, 50/60 Hz Adjustable with voltage selector |
| Power consumption: | 250 watts |
| Dimensions (w/h/d) | Approx. 280 x 335 x 380 mm ($13^1/_8$ x $11^1/_8$ x 15 in.) |
| Mass: | Approx. 10.5 kg |

Design and specifications are subject to change without notice.

# SECTION 1
# SERVICING NOTES

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### NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

### NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

### Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

### Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270 ˚C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

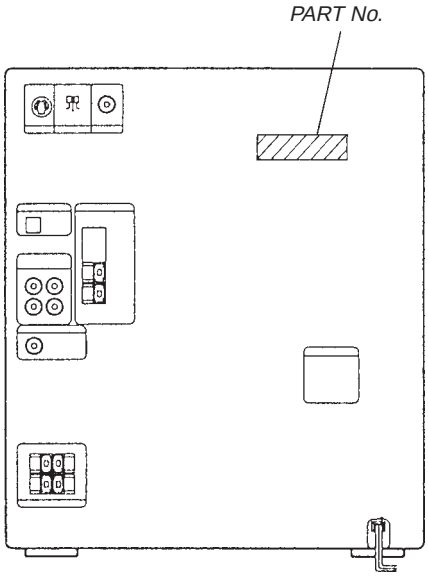
This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.

Laser component in this product is capable of emitting radiation exceeding the limit for Class 1.

The following caution label is located inside the unit.

CAUTION : INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM.
ADVARSEL : USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSAETTELSE FOR STRÅLING.
VORSICHT : UNSICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET UND SICHEREITSVERRIEGELUNG ÜBERBRÜCKT. NICHT DEM STRAHL AUSSETZEN.
VARO! : AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.
VARNING : OSYNLING LASERSTRÅLING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN.
ADVERSEL : USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES OG SIKKERHEDSLÅS BRYTES. UNNGÅ EKSPONERING FOR STRÅLEN.
VIGYAZAT! : A BURKOLAT NYITÁSAKOR LÁTHATATLAN LÉZERSUGÁRVESZÉLY! KERÜLJE A BESUGÁRZÁST!

## MODEL IDENTIFICATION
## – Back Panel –




| MODEL | PART No. |
|---|---|
| Malaysia and Singapore models | 4-900-721-0☐ |
| Tourist model | 4-900-721-1☐ |
| Chinese model | 4-900-721-2☐ |
| Hong Kong model | 4-900-721-3☐ |
| Taiwan model | 4-900-721-4☐ |
| Indonesia model | 4-900-721-5☐ |
| Thai model | 4-900-721-6☐ |
| Saudi Arabia model | 4-900-721-8☐ |

## IC502 OF VIDEO BOARD

IC502 of the VIDEO board consists of the former type and new type. The following table shows the differences between the two types.
Only spare parts for the new type IC502 are supplied.
Units using the former IC502 will not function when replaced with the new type without performing the following procedure.
Consequently, replace IC502 of units using the former type according to the following procedure.

### Table of Differences

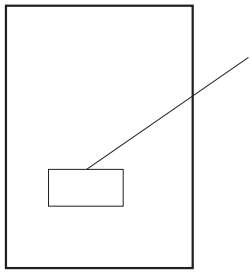
| | FORMER TYPE | NEW TYPE |
|---|---|---|
| C407, 408 | MOUNT | NO MOUNT |
| IC502 | M30620MC-302FP | M30620MC-305FP |
| JW421, JW422 | NO MOUNT | MOUNT |
| IC402 | MOUNT | NO MOUNT |
| R413, 421, 422 | MOUNT | NO MOUNT |
| X401 | MOUNT | NO MOUNT |

### Replacing Procedure

1. Remove IC402.
2. Solder JW421 and JW422, or short-circuit with a lead wire, etc.
3. Replace IC502 with a new one.

### How to Differentiate

**[VIDEO Board]** (Side A)



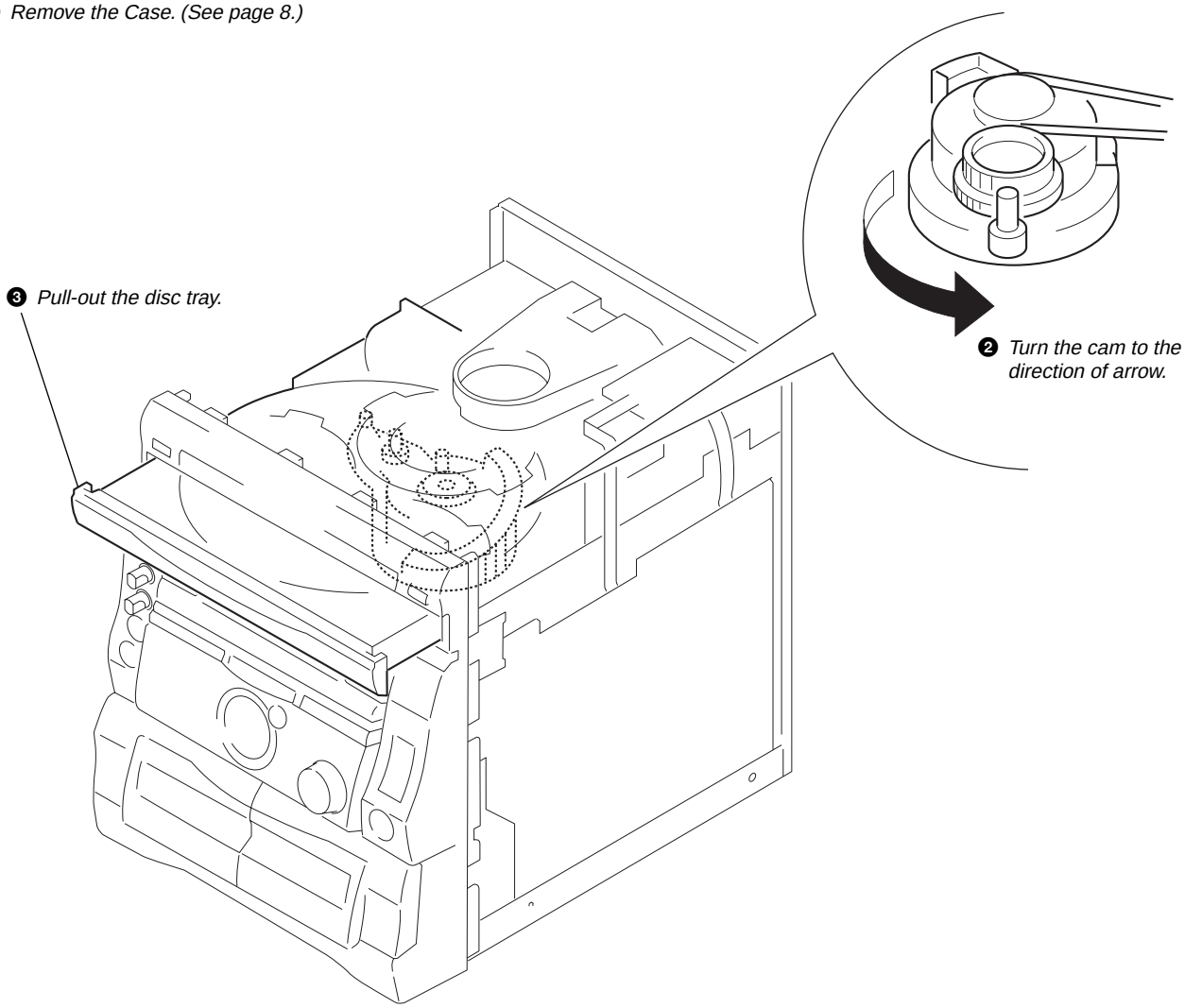
*Those with IC402 : FORMER TYPE*
*Those without IC402: NEW TYPE*

**SAFETY-RELATED COMPONENT WARNING!!**

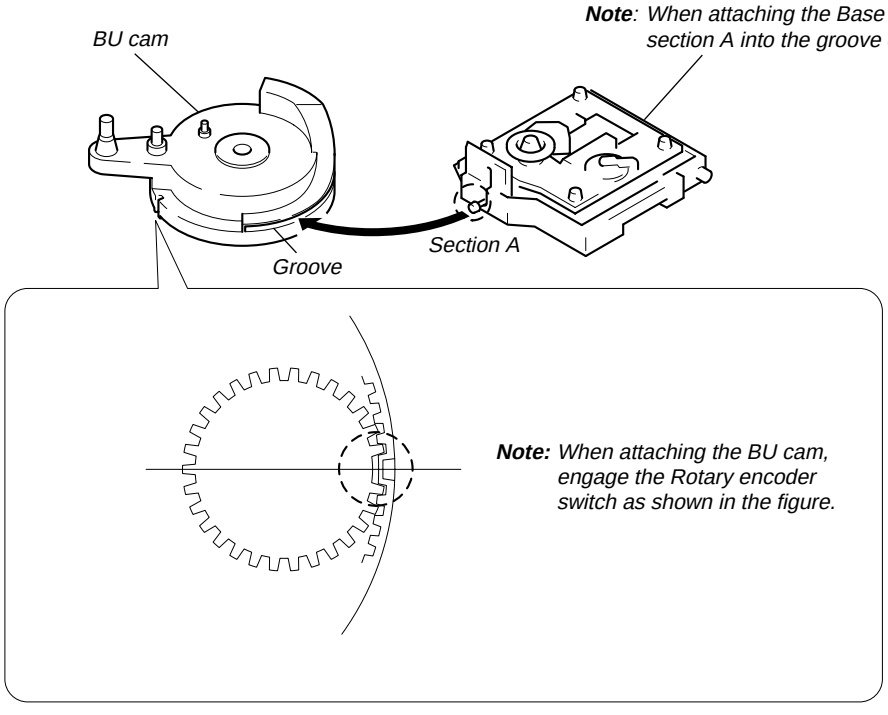
**COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.**

## HOW TO OPEN THE DISC TRAY WHEN POWER SWITCH TURNS OFF

❶ *Remove the Case. (See page 8.)*



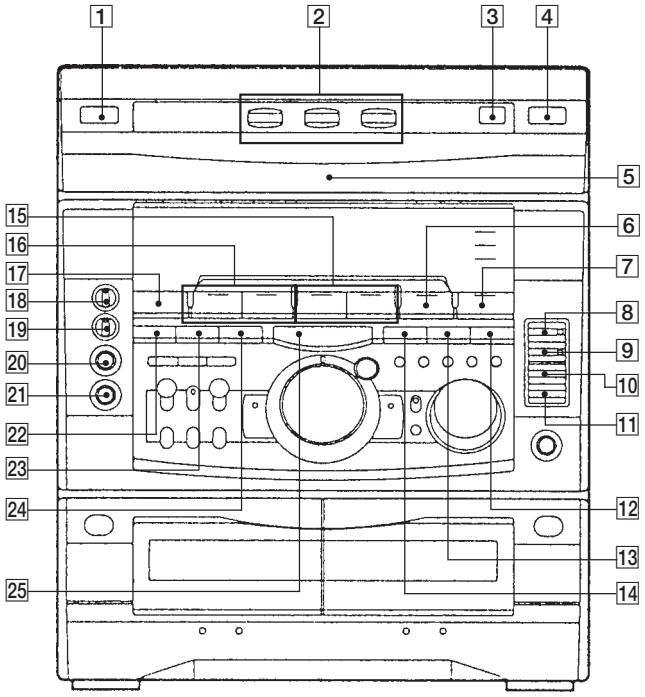

## NOTE FOR INSTALLATION (ROTARY ENCODER)


BU cam
Note: When attaching the Base unit, Insert the section A into the groove of BU cam.
Section A
Groove
Note: When attaching the BU cam, engage the Rotary encoder switch as shown in the figure.

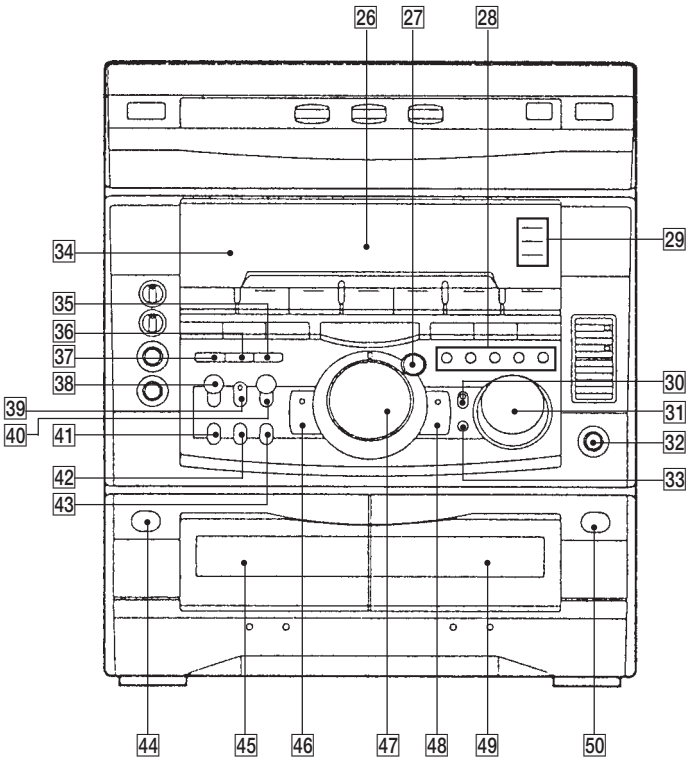
# SECTION 2
# GENERAL

## LOCATION OF CONTROLS

- **Front view**

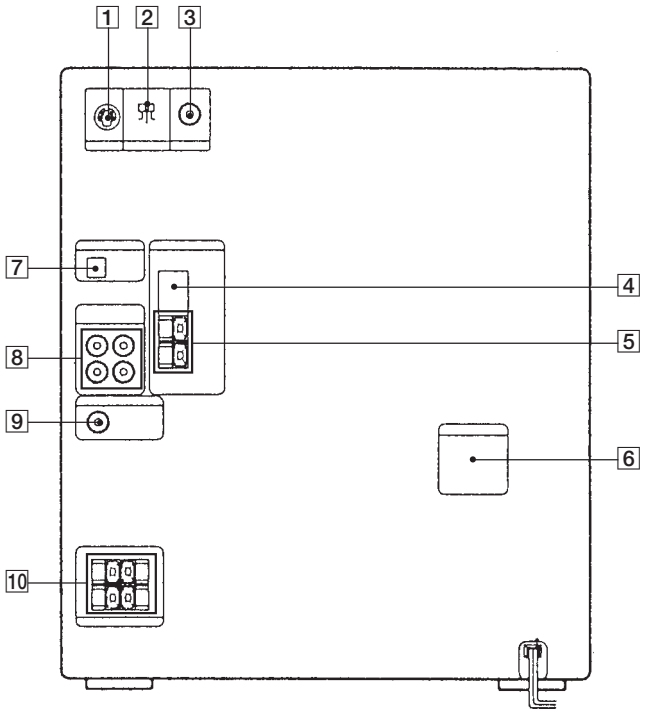



1 I /⏻ (Power) button
2 DISC 1 to 3 buttons and indicators
3 DISC SKIP/EX-CHANGE button
4 ⏏ (CD) button
5 CD disc tray
6 CD ▶II button and indicator
7 TUNER, BAND button
8 ● REC button and indicator
9 II PAUSE button and indicator
10 HI-DUB button
11 CD SYNC button
12 EFFECT button and indicator
13 SURROUND button
14 KARAOKE PON/MPX button
15 DECK B ◄ and ► buttons and indicators
16 DECK A ◄ and ► buttons and indicators
17 FUNCTION button
18 ECHO LEVEL knob
19 MIC LEVEL knob
20 MIC1 jack
21 MIC2 jack
22 DISPLAY/DEMO button
23 CLOCK/TIMER SET button
24 TIMER SELECT button
25 ■ button




26 Fluorescent indicator tube
27 ENTER/NEXT button and indicator
28 ACTIVE, SELECT, RETURN, PREV, NEXT buttons
29 VIDEO CD, PBC, PBC OFF indicators
30 GROOVE button and indicator
31 VOLUME konb
32 PHONES jack
33 DBFB button
34 Remote sensor
35 P FILE MEMORY button
36 GEQ CONTROL button
37 FILE SELECT button
38 CD LOOP button
39 CD NON-STOP button and indicator
40 CD FLASH button
41 EDIT, DIRECTION button
42 PLAY MODE, DOLBY NR button
43 REPEAT button
44 ⏏ button (deck A)
45 Tape deck A
46 –, ◄◄ button and indicator
47 JOG dial
48 +, ►► button and indicator
49 Tape deck B
50 ⏏ button (deck B)

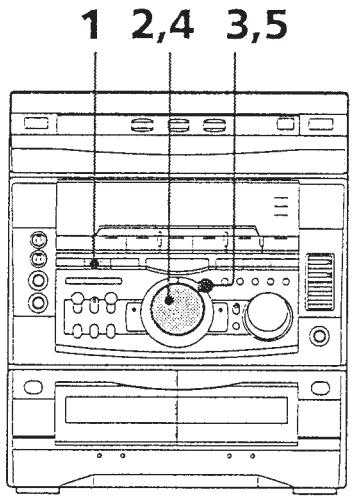
• **Rear view**



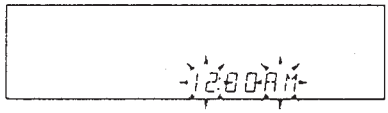

1 S VIDEO OUT jack
2 SYSTEM SELECT switch
3 VIDEO OUT jack
4 FM antenna terminal
5 AM antenna terminal
6 VOLTAGE SELECTOR switch (EXCEPT Thai and Chinese models)
7 CD DIGITAL OUT, OPTICAL connector
8 MD/VIDEO (AUDIO), IN/OUT jacks
9 SUPER WOOFER jack
10 SPEAKER terminals

## Step 2: Setting the time

You must set the time before using the timer functions.

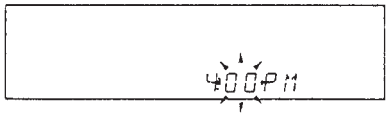



**1** Press CLOCK/TIMER SET.
The hour indication flashes.




**2** Turn the jog dial to set the hour.

**3** Press ENTER/NEXT.
The minute indication flashes.




**4** Turn the jog dial to set the minute.

**5** Press ENTER/NEXT.
The clock starts working.

**Tips**

- If you've made a mistake, start over from step 1.
- Setting the time deactivates the demo mode. If you want to display the demo mode, press DISPLAY/DEMO when the power is off.

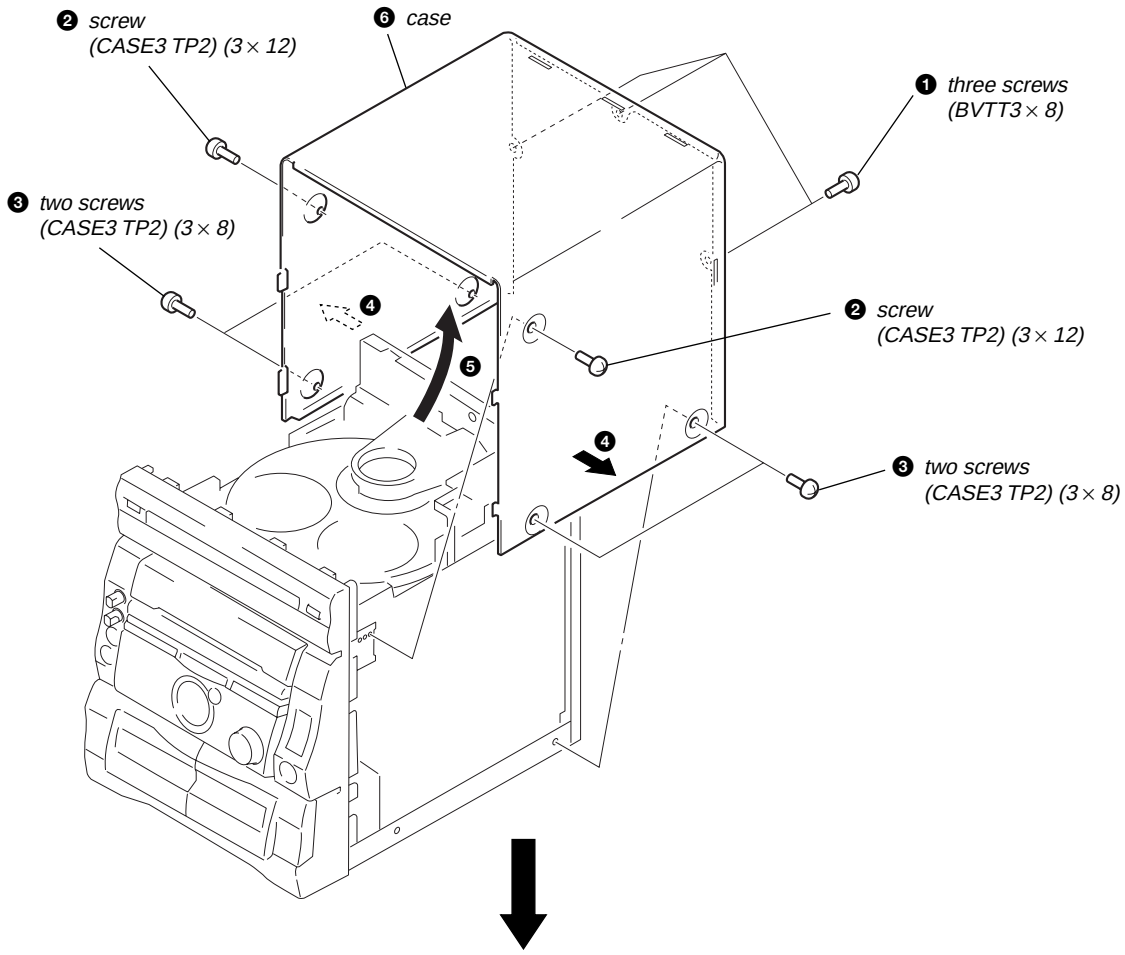
**Note**

The previous explanation shows you how to set the time while the power is off. To change the time while the power is on, do the following:
1 Press CLOCK/TIMER SET.
2 Turn the jog dial to select SET CLOCK.
3 Press ENTER/NEXT.
4 Perform steps 2 through 5 above.

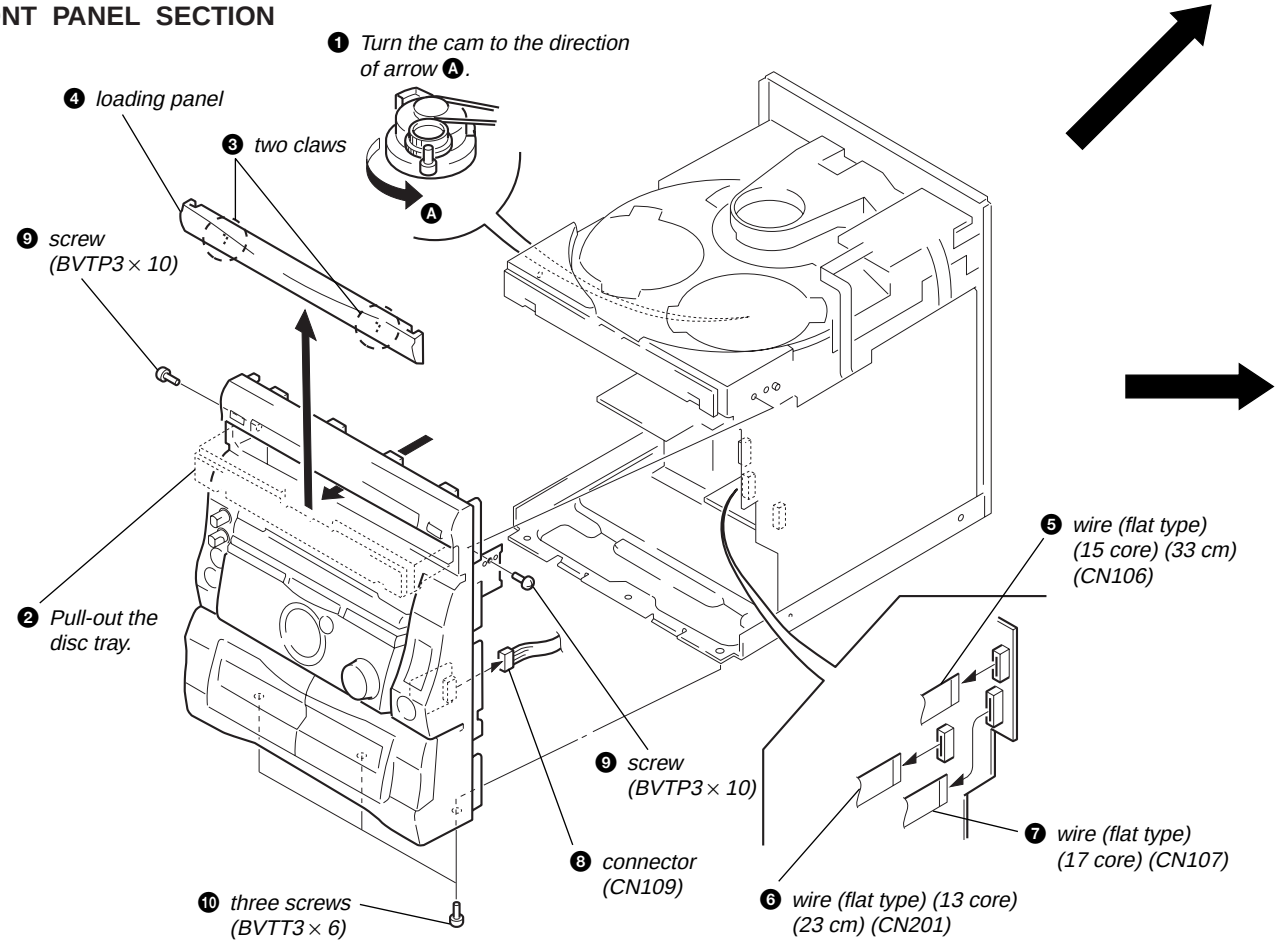
# SECTION 3
# DISASSEMBLY

**Note:** Follow the disassembly procedure in the numerical order given.

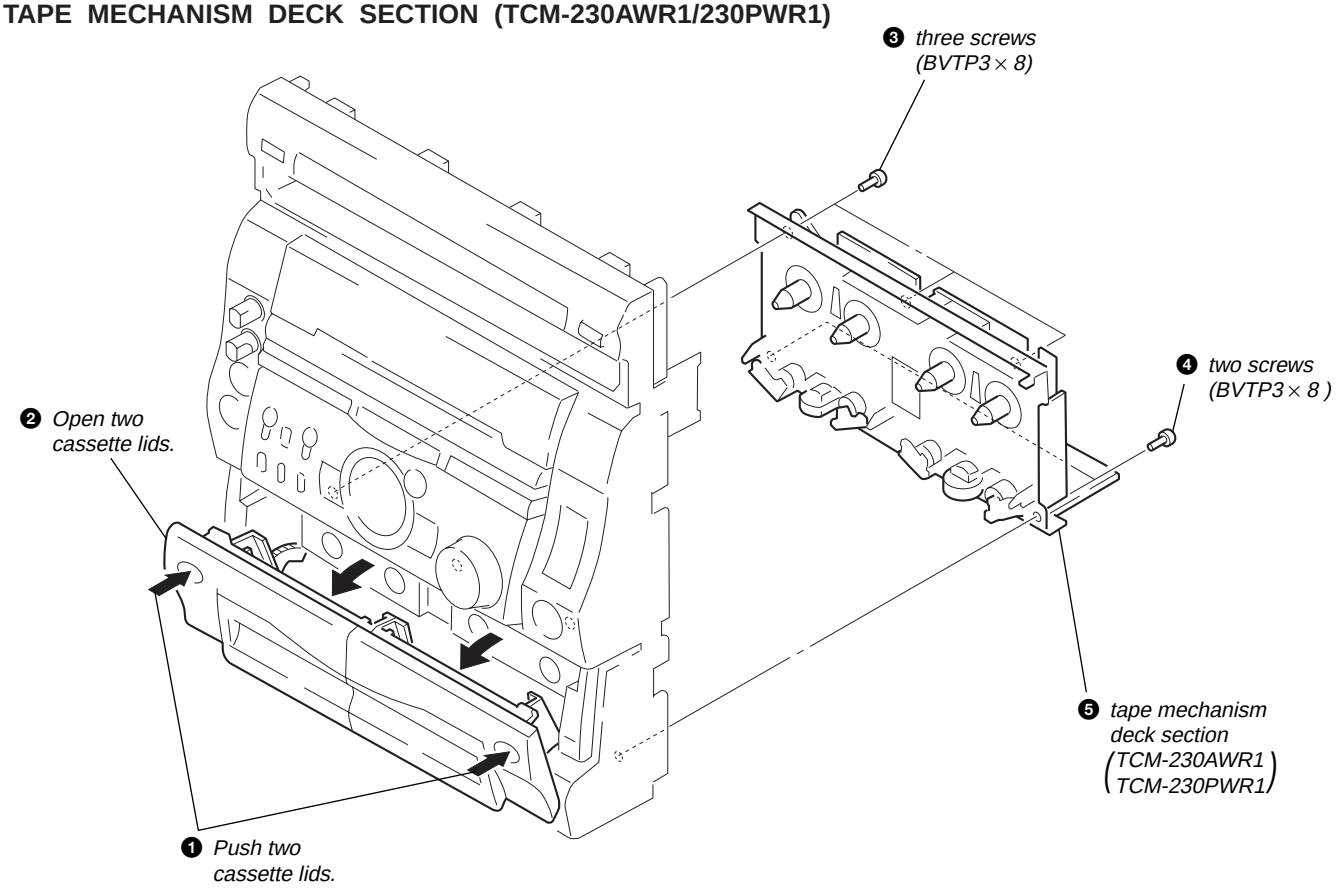
## CASE



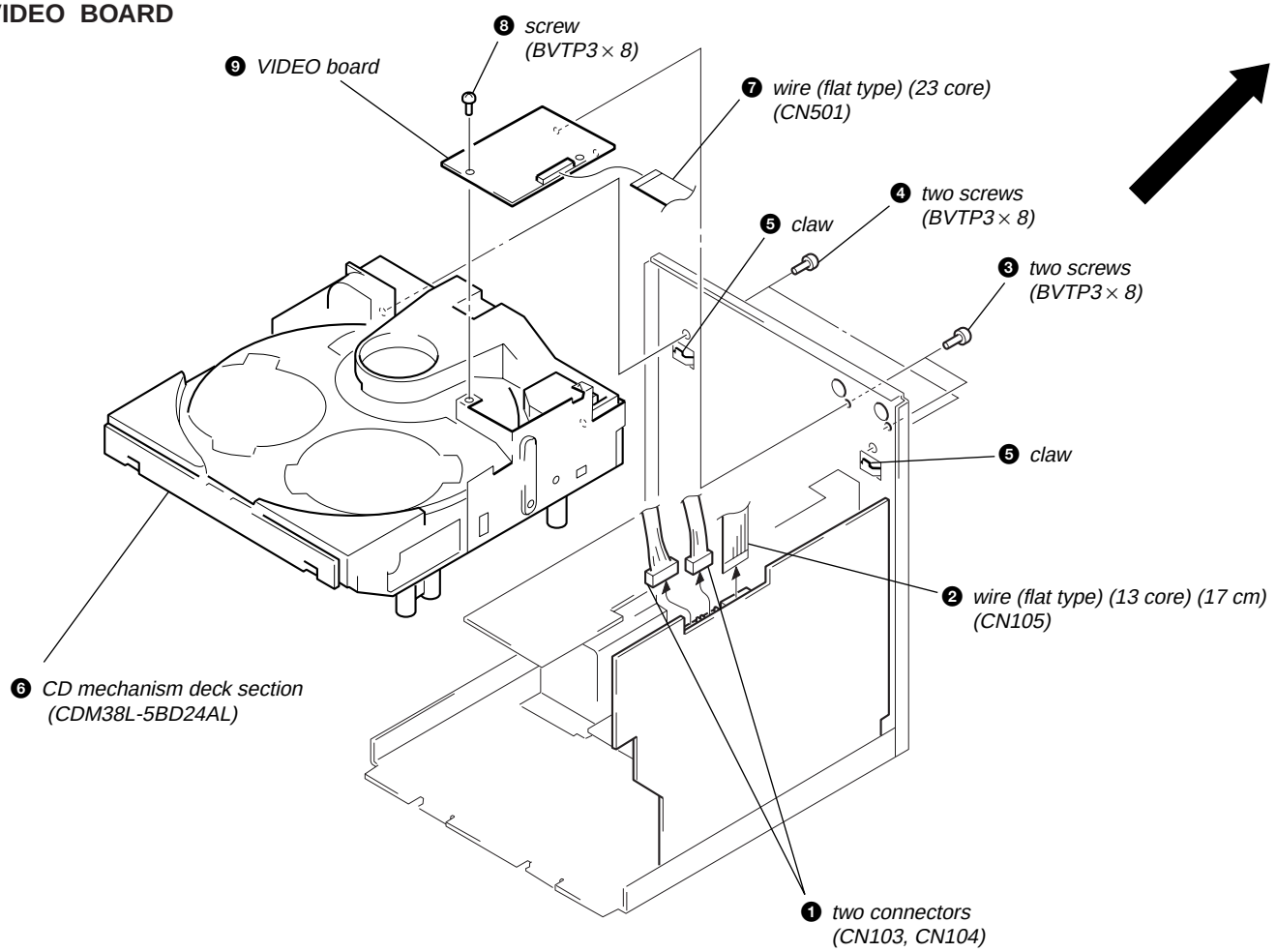

## FRONT PANEL SECTION



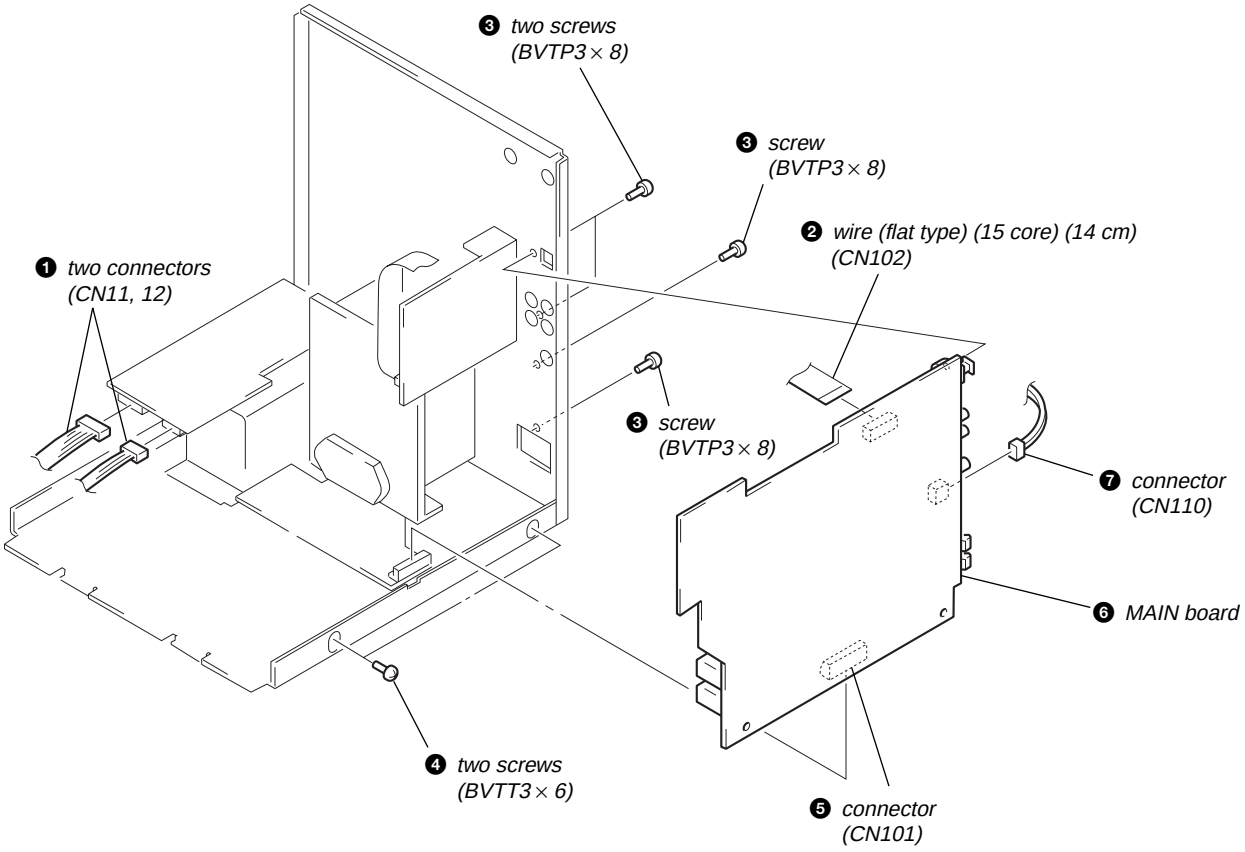
## TAPE MECHANISM DECK SECTION (TCM-230AWR1/230PWR1)


❸ three screws (BVTP3 × 8)
❹ two screws (BVTP3 × 8 )
❷ Open two cassette lids.
❺ tape mechanism deck section (TCM-230AWR1 TCM-230PWR1)
❶ Push two cassette lids.

## CD MECHANISM DECK SECTION (CDM38L-5BD24AL), VIDEO BOARD


❽ screw (BVTP3 × 8)
❾ VIDEO board
❼ wire (flat type) (23 core) (CN501)
❹ two screws (BVTP3 × 8)
❺ claw
❸ two screws (BVTP3 × 8)
❺ claw
❷ wire (flat type) (13 core) (17 cm) (CN105)
❻ CD mechanism deck section (CDM38L-5BD24AL)
❶ two connectors (CN103, CN104)

**MAIN BOARD**


❸ two screws (BVTP3 × 8)
❸ screw (BVTP3 × 8)
❷ wire (flat type) (15 core) (14 cm) (CN102)
❶ two connectors (CN11, 12)
❸ screw (BVTP3 × 8)
❼ connector (CN110)
❻ MAIN board
❹ two screws (BVTT3 × 6)
❺ connector (CN101)

# SECTION 4
# TEST MODE

### [MC Cold Reset]

• The cold reset clears all data including preset data stored in the RAM to initial conditions. Execute this mode when returning the set to the customer.

**Procedure:**

1. Press three buttons [■], [ENTER/NEXT], and [I/⏻] simultaneously.
2. The fluorescent indicator tube becomes blank instantaneously, and the set is reset.

### [CD Delivery Mode]

• This mode moves the pickup to the position durable to vibration. Use this mode when returning the set to the customer after repair.

**Procedure:**

1. Press [I/⏻] button to turn the set ON.
2. Press [CD LOOP] button and [I/⏻] button simultaneously.
3. A message "LOCK" is displayed on the fluorescent indicator tube, and the CD delivery mode is set.

### [MC Hot Reset]

• This mode resets the set with the preset data kept stored in the memory. The hot reset mode functions same as if the power cord is plugged in and out.

**Procedure:**

1. Press three buttons [■], [ENTER/NEXT], and [DISC 1] simultaneously.
2. The fluorescent indicator tube becomes blank instantaneously, and the set is reset.

### [Sled Servo Mode]

• This mode can run the CD sled motor freely. Use this mode, for instance, when cleaning the pickup.

**Procedure:**

1. Press [I/⏻] button to turn the set ON.
2. Select the function "CD".
3. Press three buttons [■], [ENTER/NEXT], and [⏏] simultaneously.
4. The Sled Servo mode is selected, if "CD" is blanking on the fluorescent indicator tube.
5. With the CD in stop status, press [▶▶ +] button to move the pickup to outside track, or [– ◀◀] button to inside track.
6. To exit from this mode, perform as follows:
   1) Move the pickup to the most inside track.
   2) Press three buttons in the same manner as step 3.

**Note:** • Always move the pickup to most inside track when exiting from this mode. Otherwise, a disc will not be unloaded.
• Do not run the sled motor excessively, otherwise the gear can be chipped.

### [Change-over of FUNCTION Name]

• The FUNCTION name of external input terminal can be changed over to "VIDEO" of "MD".

**Procedure:**

1. Press [I/⏻] button to turn the set OFF.
2. Press [I/⏻] button together with [FUNCTION] button, and the power is turned on, the display of fluorescent indicator tube changes to "MD" of "VIDEO" instantaneously, and thus the FUNCTION is changed over.

### [Change-over of MW Tuner Step between 9 kHz and 10 kHz]

• A step of MW channels can be changed over between 9 kHz and 10 kHz.

**Procedure:**

1. Press [I/⏻] button to turn the set ON.
2. Select the function "TUNER", and press [TUNER BAND] button to select the BAND "MW".
3. Press [I/⏻] button to turn the set OFF.
4. Press [ENTER/NEXT] and [I/⏻] buttons simultaneously, and the display of fluorescent indicator tube changes to "MW 9 k STEP" or "MW 10 k STEP", and thus the channel step is changed over.

### [LED and Fluorescent Indicator Tube All Lit, Key Check Mode]

**Procedure:**

1. Press three buttons [■], [ENTER/NEXT], and [DISC 2] simultaneously.
2. LEDs and fluorescent indicator tube are all turned on.
   Press [DISC 2] button, and the key check mode is activated.
3. In the key check mode, the fluorescent indicator tube displays "K 1 J0 V0". Each time a button is pressed, "K" value increases. However, once a button is pressed, it is no longer taken into account.
   "J" value increases like 1, 2, 3 ... if rotating [JOG] knob in "+" direction, or it decreases like 0, 9, 8 ... if rotating in "–" direction.
   "V" value increases like 1, 2, 3 ... if rotating [VOLUME] knob in "+" direction, or it decreases like 0, 9, 8 ... if rotating in "–" direction.
4. To exit from this mode, press three buttons in the same manner as step 1, or disconnect the power cord.

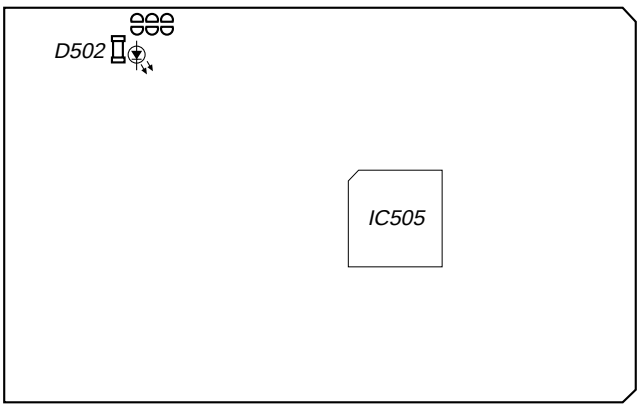
### [Self-Diagnosis]

This unit is equipped with a self-diagnosis function.
The function is used for diagnosing the conditions of the circuits of the VIDEO board.
The circuits can be determined if normal or abnormal by the lighting of D502 of the VIDEO board.

**Lighting of D502**

When lit : Operates normally
Blinks repeatedly : The circuit may be faulty.

**[VIDEO Board]** (Side A)



**[Aging Mode]**

This mode can be used for operation check of CD section and tape deck section.

- If an error occurred:
  The aging operation stops and display status.
- If no error occurs:
  The aging operation continues repeatedly.

1. Operating Method of Aging Mode

1) Set disc in DISC1 tray.
2) Load the tapes recording use into the decks A and B respectively.
3) Press three buttons [■], [ENTER/NEXT], and [DISC SKIP/EX-CHANGE] simultaneously.
4) The aging mode is activated, if a CD roulette mark on the fluorescent indicator tube is blinking.
5) To exit from the aging mode, press [I/⏻] button to turn the set OFF.

2. Operation Sequence

- During the aging mode in the following sequence to below.
- Starting the CD section aging for function set "CD", starting the TAPE section (deck A) aging for function set "TAPE A" or "TAPE B". (Set another function is no work.)

CD (disc1) (12 minutes) → Deck A
↓
Deck B
} (Maximum about 12 minutes)

3. Aging mode in CD section

1) Display state

- No error occurs

display

[✳][✳] 1 – [@][@]

**Note:**

[✳][✳] : a letter "CD" and the remainder time (minute) alternately. (remainder time start from 12 minute)
[@][@] : track number in access.

- Error occurred

| NO. | Display | Main factor |
|---|---|---|
| 1 | NO DISC ERR | Not set disc in DISC1 |
| 2 | FOCUS1 ERR | Focus does not work |
| 3 | FOCUS2 ERR | Focus does not work after the disc rotate as usual |
| 4 | GFS ERR | GFS error |
| 5 | FBIAS ERR | Error in to the focus bias adjustment |
| 6 | SENSOR ERR | Disc sensor sens DISC1 is no disc |
| 7 | TABLE ERR | CD tray lotate does not work |
| 8 | TRAY ERR | Tray (include BD) move does not work |

2) Operation during aging Mode

In the aging mode, the program is executed in the following sequence.

(1) The CD tray rotates and disc 1 is selected.
(2) Chucking is performed.
(3) TOC is read.
(4) Track 1 played back for 8 seconds.
(5) The CD tray opens and closes again.
(6) 1 to 5 is repeated.
(7) After 12 minutes of aging, aging is switched to the tape deck.

4. Aging mode in Tape Deck section

1) Display state

- No error occurs
  Display action now
- Error occurred
  Display action last time

| NO. | Display action | Action contents | Final timing |
|---|---|---|---|
| 1 | TAPE A AG-1 | Rewind the TAPE A | The top of tape |
| 2 | TAPE A AG-2 | FWD play the TAPE A | 2 minutes playing |
| 3 | TAPE A AG-3 | F.F. the TAPE A | First either 20 seconds or the end of tape |
| 4 | TAPE A AG-4 | REV play the TAPE A | 2 minutes playing |
| 5 | TAPE A AG-5 | Rewind the TAPE A | The top of tape |
| 6 | TAPE B AG-1 | Rewind the TAPE B | The top of tape |
| 7 | TAPE B AG-2 | FWD play the TAPE B | 2 minutes playing |
| 8 | TAPE B AG-3 | F.F. the TAPE B | First either 20 seconds or the end of tape |
| 9 | TAPE B AG-4 | REV play the TAPE B | 2 minutes playing |
| 10 | TAPE B AG-5 | Rewind the TAPE B | The top of tape |

2) Operation during Aging Mode

In the aging mode, the program is executed in the following sequence.

(1) The tape in deck A is rewound to the head.
(2) The FWD side is played back for 2 minutes.
(3) The tape is fast forwarded (FF) for 20 seconds. The following procedure is performed when the tape end is reached before the 20 seconds.
(4) The REV side is played back for 2 minutes.
(5) The tape is rewound to the head (REW).
(6) The tape in deck B is rewound to the head.
(7) The FWD side is played back for 2 minutes.
(8) The tape is fast forwarded (FF) for 20 seconds. The following procedure is performed when the tape end is reached before the 20 seconds.
(9) The REV side is played back for 2 minutes.
(10) The tape is rewound to the head (REW).
(11) Aging is switched to the CD player.

**[VIDEO CD Color-bars Mode]**

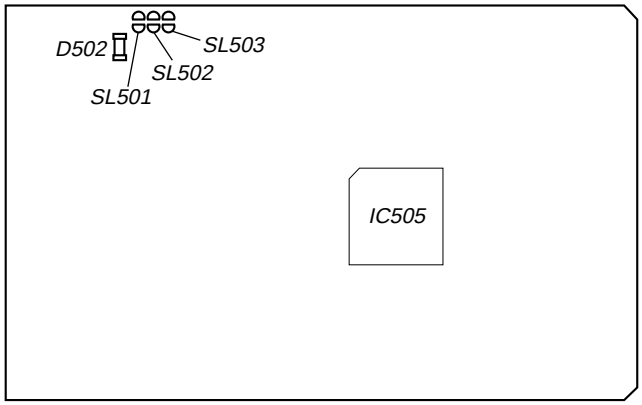
On this mode, the data of the color-bars signal as a picture signal and the 1 kHz sine wave signal as a sound signal are output by the mechanism controller (IC502) for the video CD signal check. When measurement of the voltage and waveform on the VIDEO board, perform it in this mode.

For reference, the color-bars signal can be observed at J302 (VIDEO OUT) and the sound signal can be observed at J101 (VIDEO/MD (AUDIO) OUT) using an oscilloscope.

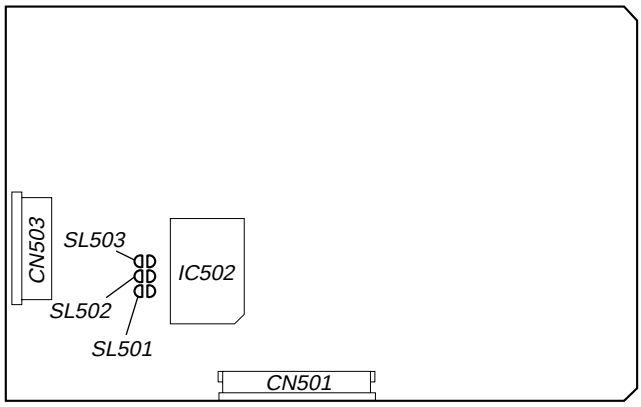
**Procedure:**

1. Connect the lead wire to both ends of the land of SL503 of the VIDEO board.
2. Turn the power on. Press FUNCTION button to select CD.
3. After 2 or 3 seconds later, connect the lead wire.
4. After measuring, remove the lead wire connected.

**[VIDEO board]** (Side A)




**[VIDEO board]** (Side B)



# SECTION 5
# MECHANICAL ADJUSTMENTS

### Precaution

1. Clean the following parts with a denatured alcohol-moistened swab:
   record/playback heads, erase head, capstan, pinch rollers, rubber belts, idlers
2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

### Torque Measurement

| Mode | Torque meter | Meter reading |
|---|---|---|
| FWD | CQ-102C | 31 to 71 g • cm (0.43 – 0.98 oz • inch) |
| FWD back tension | CQ-102C | 2 to 6 g • cm (0.03 – 0.08 oz • inch) |
| REV | CQ-102RC | 31 to 71 g • cm (0.43 – 0.98 oz • inch) |
| REV back tension | CQ-102RC | 2 to 6 g • cm (0.03 – 0.08 oz • inch) |
| FF/REW | CQ-201B | 71 to 143 g • cm (0.99 – 1.99 oz • inch) |
| FWD tension | CQ-403A | 100 g or more (3.53 oz or more) |
| REV tension | CQ-403R | 100 g or more (3.53 oz or more) |

# SECTION 6
# ELECTRICAL ADJUSTMENTS

**DECK SECTION** 0 dB=0.775 V

1. Demagnetize the record/playback head with a head demagnetizer.
2. Do not use a magnetized screwdriver for the adjustments.
3. After the adjustments, apply suitable locking compound to the parts adjust.
4. The adjustments should be performed with the rated power supply voltage unless otherwise noted.
5. The adjustments should be performed in the order given in this service manual. (As a general rule, playback circuit adjustment should be completed before performing recording circuit adjustment.)
6. The adjustments should be performed for both L-CH and R-CH.
7. Switches and controls should be set as follows unless otherwise specified.

• Test Tape

| Tape | Signal | Used for |
|---|---|---|
| P-4-A100 | 10 kHz, –10 dB | Azimuth Adjustment |
| WS-48B | 3 kHz, 0 dB | Tape Speed Adjustment |
| P-4-L300 | 315 Hz, 0 dB | Level Adjustment |

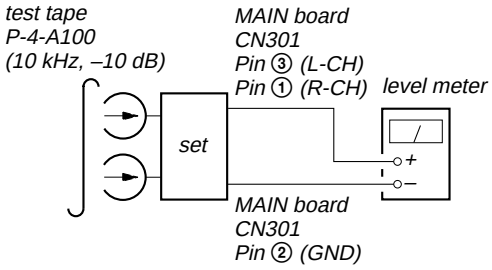
### Record/Playback Head Azimuth Adjustment

**DECK A** **DECK B**

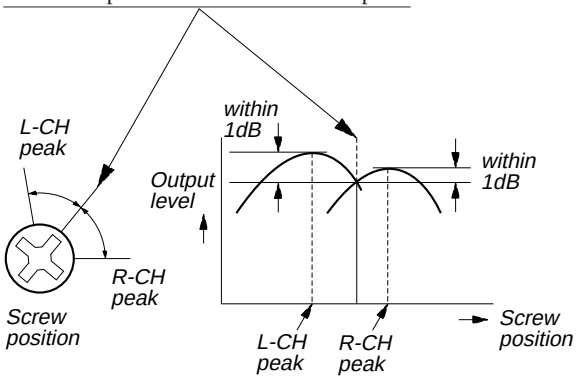
**Note:** Perform this adjustments for both decks

**Procedure:**

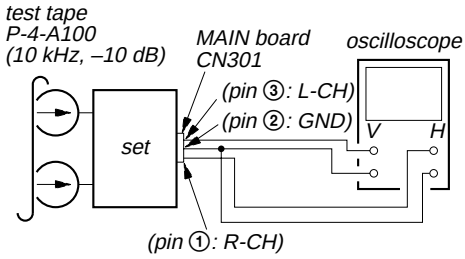
1. Mode: Playback (FWD)

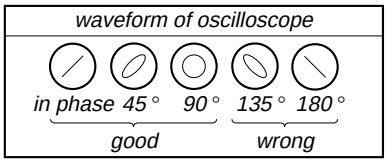


2. Turn the adjustment screw and check output peaks. If the peaks do not match for L-CH and R-CH, turn the adjustment screw so that outputs match within 1dB of peak.



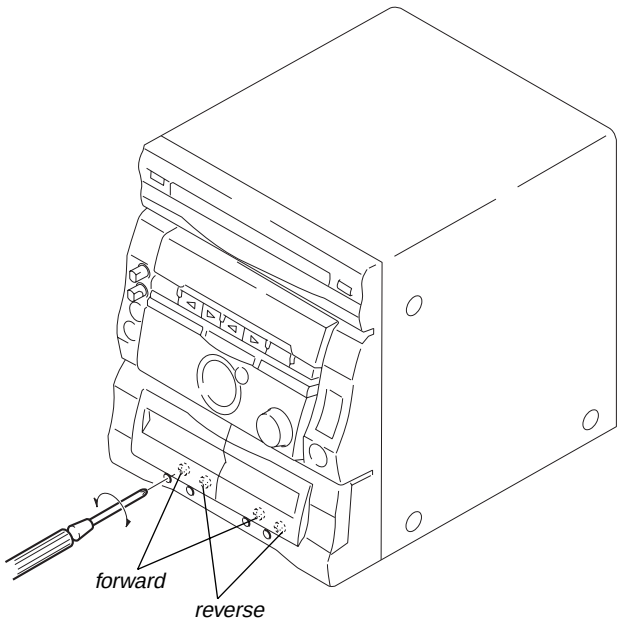

3. Mode: Playback (FWD)




4. Repeat setps 1 to 3 in playback (REV) mode.
5. After the adjustments, apply suitable locking compound to the pats adjusted.

**Adjustment Location:** Playback Head (Deck A).
Record/Playback/Erase Head (Deck B).



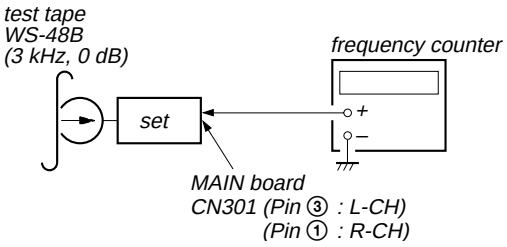

## Tape Speed Adjustment DECK B

**Note:** Start the Tape Speed adjustment as below after setting to the test mode.
In the test mode, the tape speed is high during pressing the HI-DUB button.

**Procedure:**

1. Turn the power switch on.
2. Press the ■ button, ENTER/NEXT button and DISC 3 button simultaneously.
(The "VOLUME" on the fluorescent indicator tube will blink while in the test mode.)
To exit from the test mode, press the I/⏻ button.

Mode: Playback




1. Insert the WS-48B into the deck B.
2. Press the ▷ button on the deck B.
3. Press the HI-DUB button in playback mode.
Then at HIGH speed mode.
4. Adjust RV1001 on the LEAF SW board do that frequency counter reads 6,000 ± 180 Hz.
5. Press the HI-DUB button.
Then back to NORMAL speed mode.
6. Adjust RV1002 on the LEAF SW board so that frequency counter reads 3,000 ± 90 Hz.

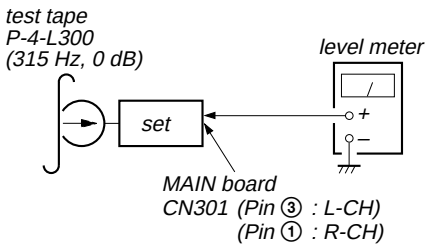
**Adjustment Location:** LEAF SW board

**Sample value of Wow and Flutter:** 0.3% or less W.RMS (JIS)
(WS-48B)

## Playback level Adjustment DECK A DECK B

**Procedure:**

Mode: Playback




Deck A is RV311 (L-CH) and RV411 (R-CH), Deck B is RV301 (L-CH) and RV401 (R-CH) so that adjustment within adjustment level as follows.

**Adjustment Level:**

CN301 PB level: 301.5 to 338.3 mV (–8.2 to –7.2 dB) level difference between the channels: within ± 0.5 dB

**Adjustment Location:** AUDIO board

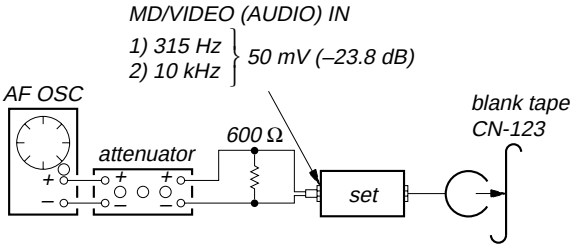
## REC Bias Adjustment DECK B

**Procedure:**

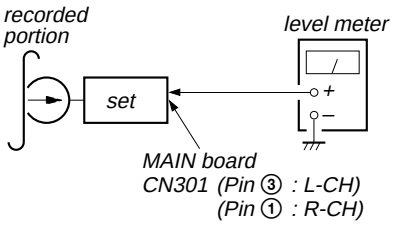
INTRODUCTION

When set to the test mode performed in Tape Speed Adjustment, when the tape is rewound after recording, the "REC memory mode" which rewinds only the recorded portion and playback is set.
This "REC memory mode" is convenient for performing this adjustment. During recording, the input signal FUNCTION will automatically switch to VIDEO.
(After recording, press the [– ◀◀] button without stopping will return to the position where recording was started.)

1. Press [FUNCTION] button to select VIDEO. (This step is not necessary if the above test mode has already been set.)
2. Insert a tape into deck B.
3. After press [● REC] button, press [▮▮] button, then recording start.
4. Mode: Record




5. Mode: Playback




6. Confirm playback the signal recorded in step 3 become adjustable level as follows.
   If these levels do not adjustable level, adjustment the RV341 (L-CH) and RV441 (R-CH) on the AUDIO board to repeat steps 4 and 5.

**Adjustable level:** Playback output of 315 Hz to playback output of 10 kHz: ± 1.0 dB

**Adjustment Location:** AUDIO board

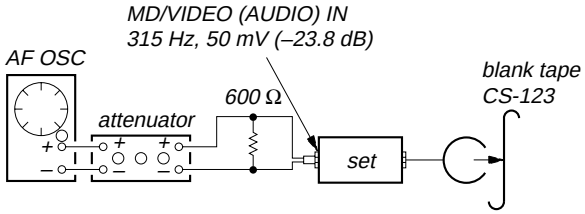
## REC Level Adjustment DECK B

**Procedure:**

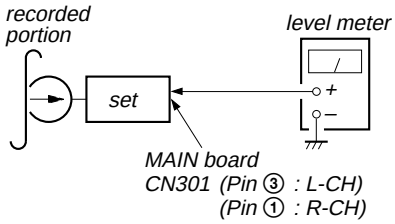
INTRODUCTION

When set to the test mode performed in Tape Speed Adjustment, when the tape is rewound after recording, the "REC memory mode" which rewinds only the recorded portion and playback is set.
This "REC memory mode" is convenient for performing this adjustment. During recording, the input signal FUNCTION will automatically switch to VIDEO.
(After recording, press the [– ◀◀] button without stopping will return to the position where recording was started.)

1. Press [FUNCTION] button to select VIDEO. (This step is not necessary if the above test mode has already been set.)
2. Insert a tape into deck B.
3. After press [● REC] button, press [▮▮] button, then recording start.
4. Mode: Record




5. Mode: Playback




6. Confirm playback the signal recorded in step 3 become adjustable level as follows.
   If these levels do not adjustable level, adjustment the RV301 (L-CH) and RV351 (R-CH) on the MAIN board to repeat steps 4 and 5.

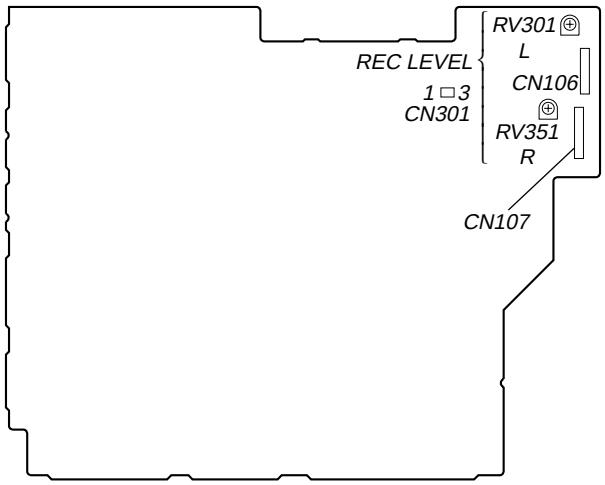
**Adjustable level:**

CN301 PB level: 47.2 to 53.0 mV (–24.3 to –23.3 dB)

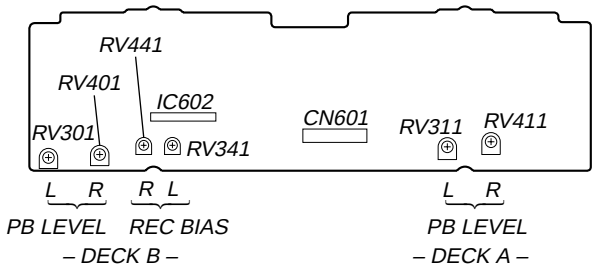
**Adjustment Location:** MAIN board

**Adjustment Location:**

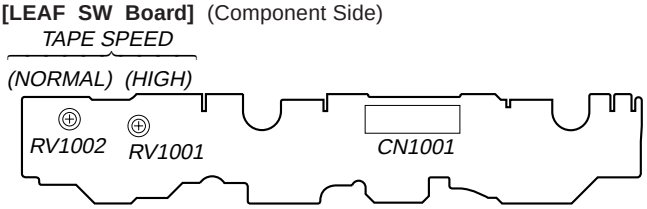
**[MAIN Board]** (Component Side)




**[AUDIO Board]** (Component Side)




**[LEAF SW Board]** (Component Side)



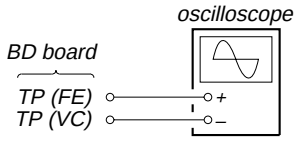
## CD SECTION

**Notes:**

1. CD block basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (Part No.: 3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than 10 MΩ impedance.
4. Clean an object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

### S-Curve Check

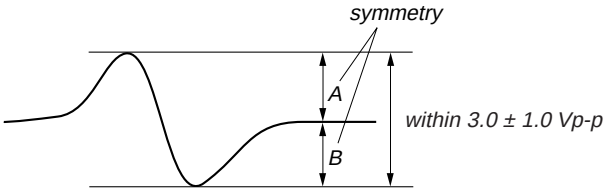
**Connection:**




**Procedure:**

1. Connect the oscilloscope to TP (FE) and TP (VC) on BD board.
2. Connect between test point TP (FOK) and GND by lead wire.
3. Turned power switch on.
4. Put disc (YEDS-18) in and turned power switch on again and actuate the focus search. (actuate the focus search when disc table is moving in and out.)
5. Confirm that the oscilloscope waveform (S-curve) is symmetrical between A and B. And confirm peak to peak level within 3.0 ± 1.0 Vp-p.

*S-curve waveform*

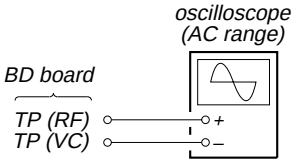



6. After check, remove the lead wire connected in step 2.

**Note:** • Try to measure several times to make sure that the ratio of A : B or B : A is more than 10 : 7.
• Take sweep time as long as possible and light up the brightness to obtain best waveform.

### RF Level Check

**Connection:**

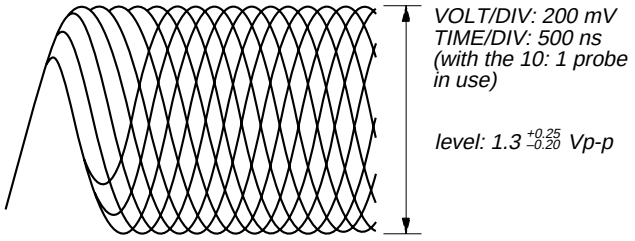



**Procedure:**

1. Connect the oscilloscope to TP (RF) and TP (VC) on BD board.
2. Turned power switch on.
3. Put disc (YEDS-18) in and press the ▷II button.
4. Confirm that the oscilloscope waveform is clear and check RF signal level is correct or not.

**Note:** Clear RF signal waveform means that the shape "◇" can be clearly distinguished at the center of the waveform.

*RF signal waveform*




When observing the eye pattern, set the oscilloscope for AC range and raise vertical sensitivity.

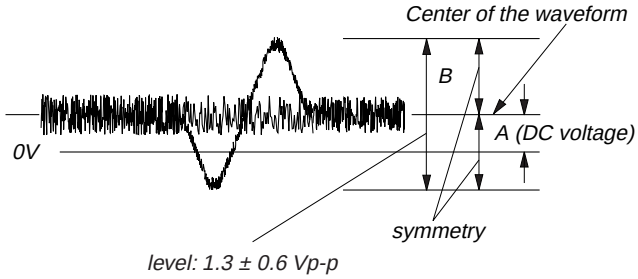
**When a general remote commander is not used (1 Track Jump Check):**

**Procedure:**

1. Connect the oscilloscope to TP (TE) and TP (VC) on BD board.
2. Turned power switch on.
3. Put disc (YEDS-18) in and press the ▷II button, and play the number five track.
4. Press the ▷II button. (Becomes the 1 track jump mode)
5. Confirm that the level B of the oscilloscope's waveform and the A (DC voltage) of the center of the traverse waveform. Confirm the following:

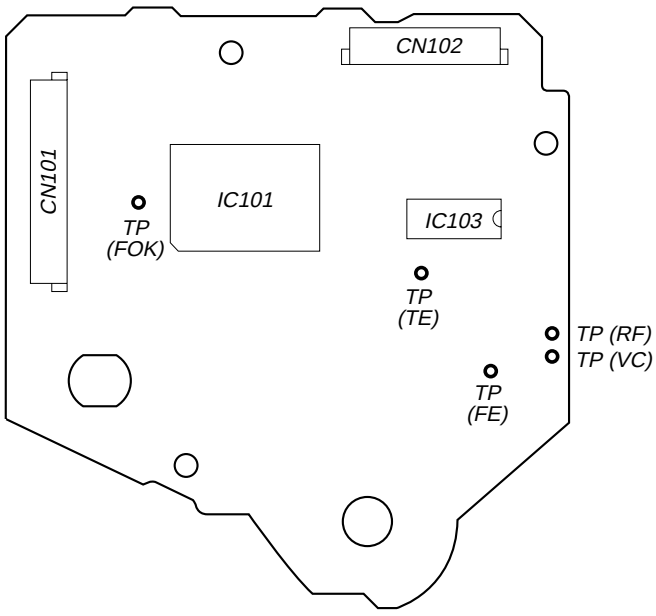
$$\frac{A - B}{2\,(A + B)} \times 100 = \pm 7\ (\%)$$

*1 track jump waveform*




**Connection Location:**

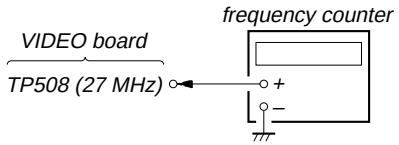
**[BD Board]** (Side A)



## VIDEO SECTION

### Frequency Adjustment

**Connection:**

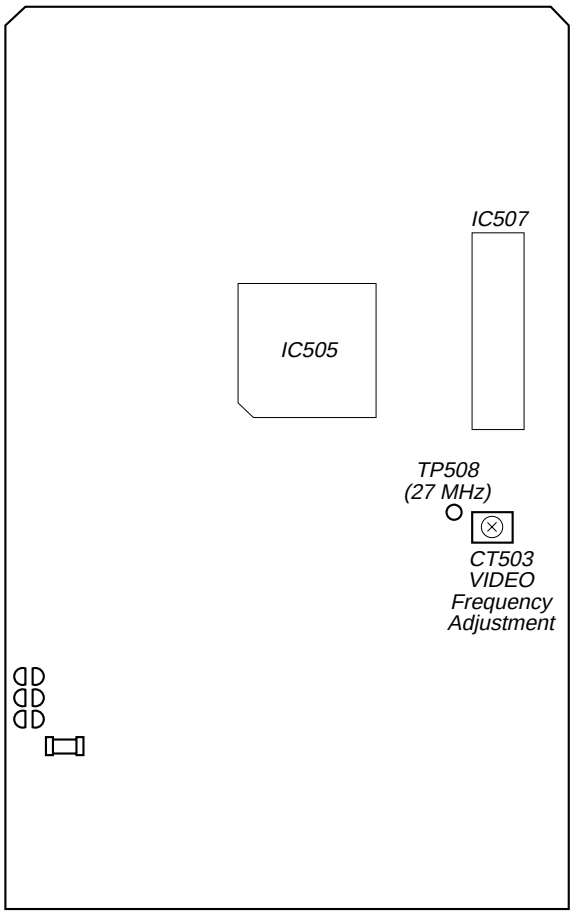



**Procedure:**

1. Connect the frequency counter to TP508 (27 MHz) on VIDEO board.
2. Turned power switch on.
3. Press the FUNCTION button to select the CD.
4. Adjust CT503 on the VIDEO board so that the frequency counter reading 27.0 MHz ± 80 Hz at stop status.

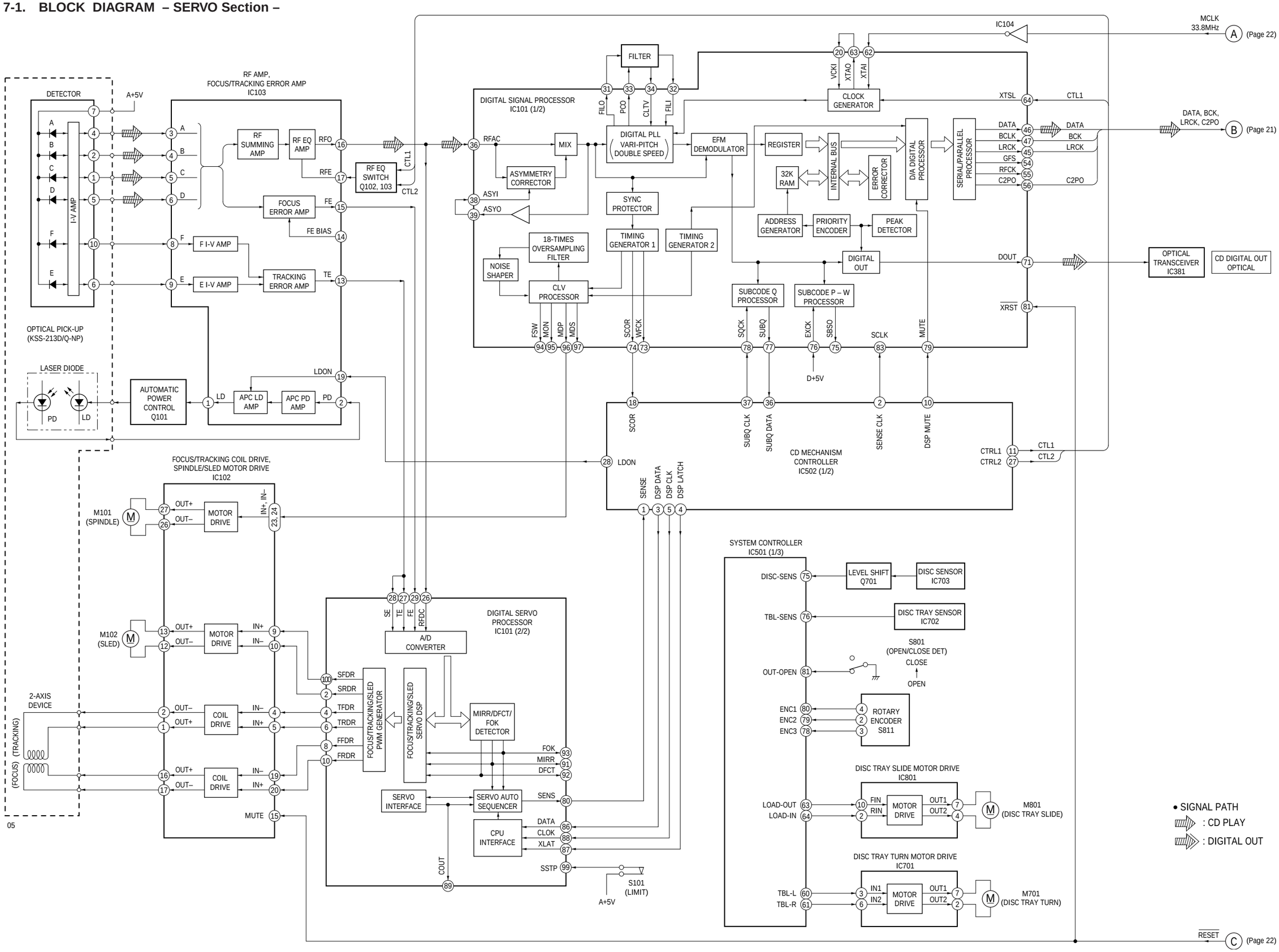
**Adjustment Location:**

**[VIDEO Board]** (Side A)

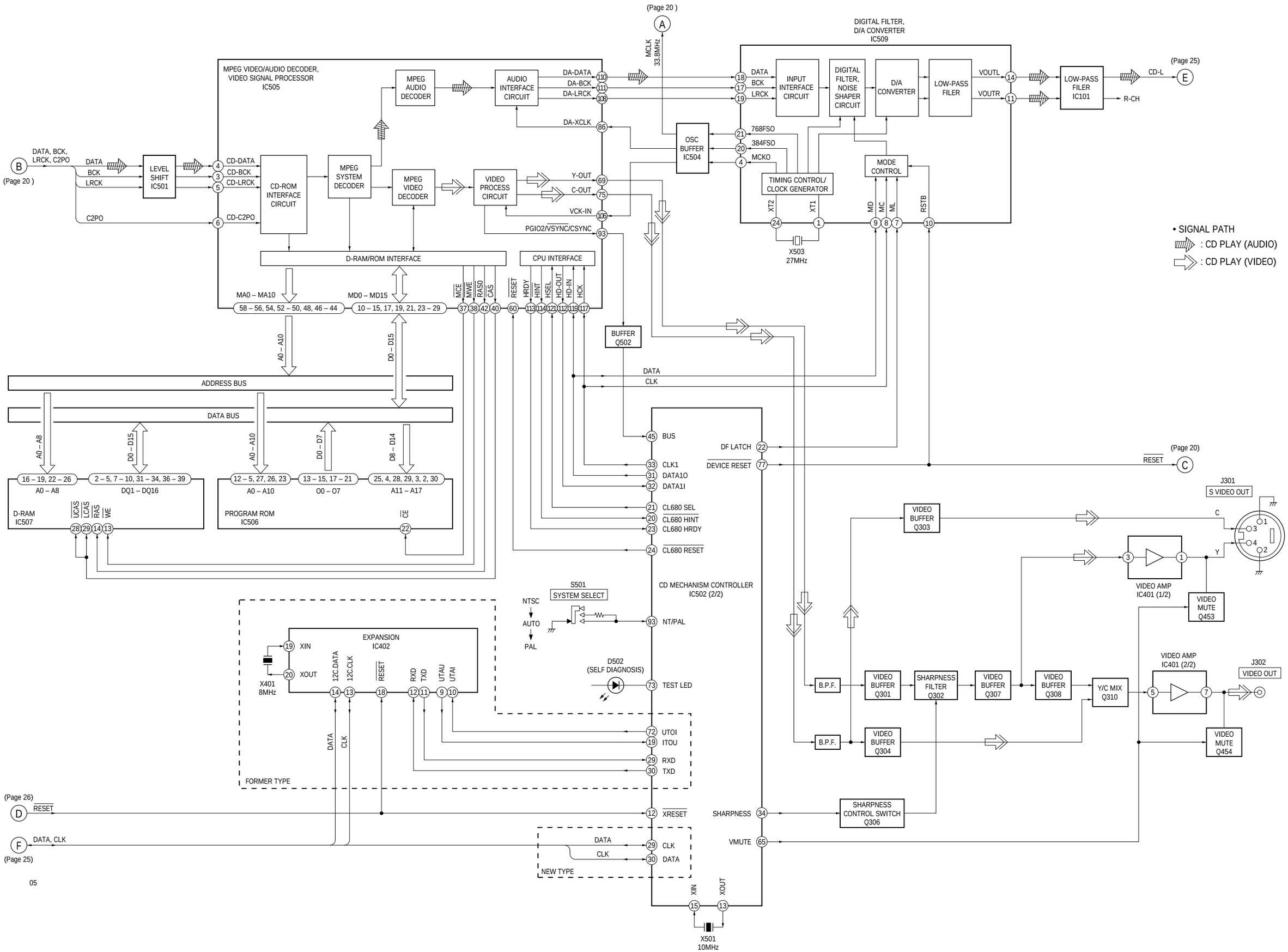


# SECTION 7
# DIAGRAMS

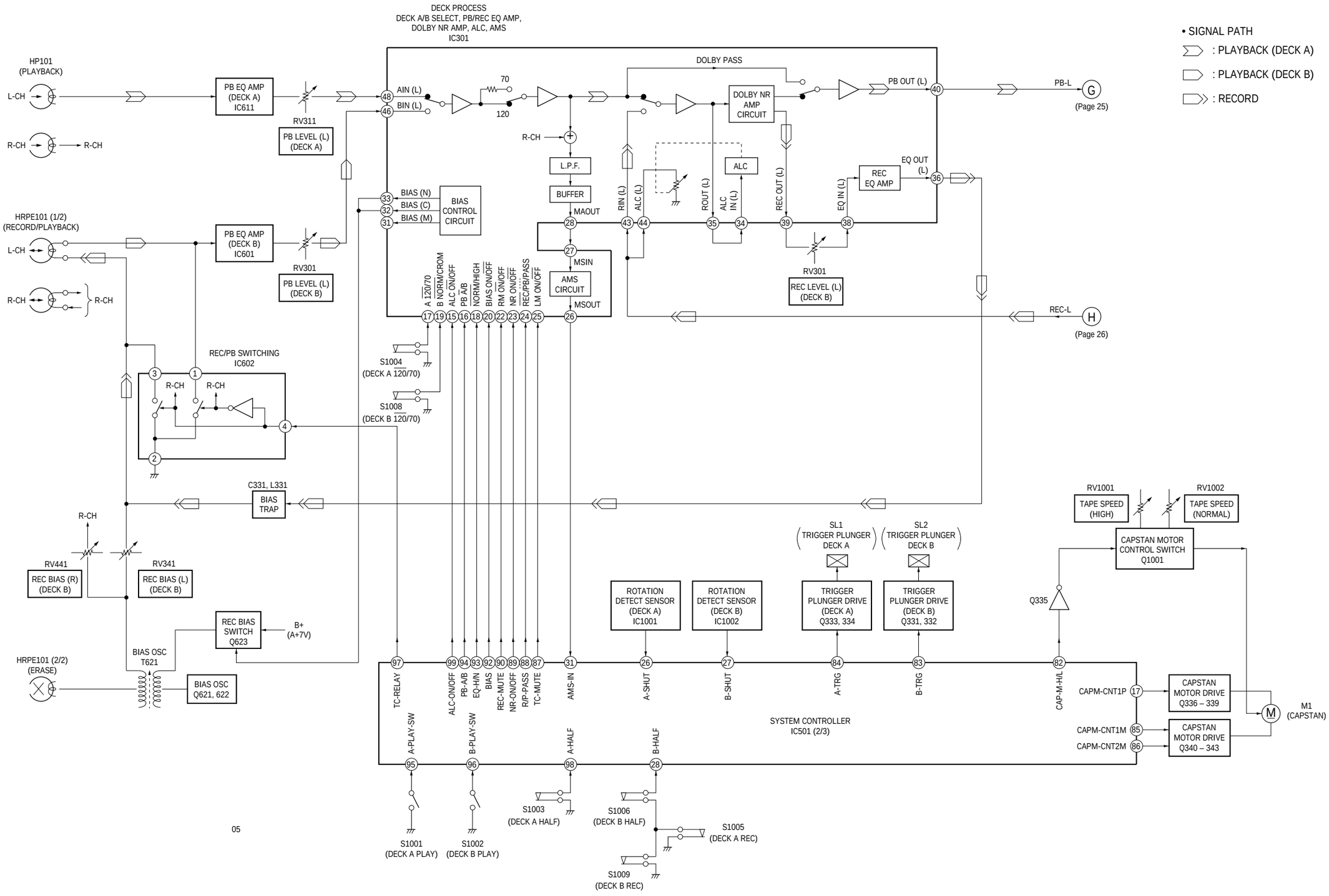
## 7-1. BLOCK DIAGRAM – SERVO Section –



## 7-2. BLOCK DIAGRAM – AUDIO/VIDEO CD Section –



## 7-3. BLOCK DIAGRAM – TAPE DECK Section –

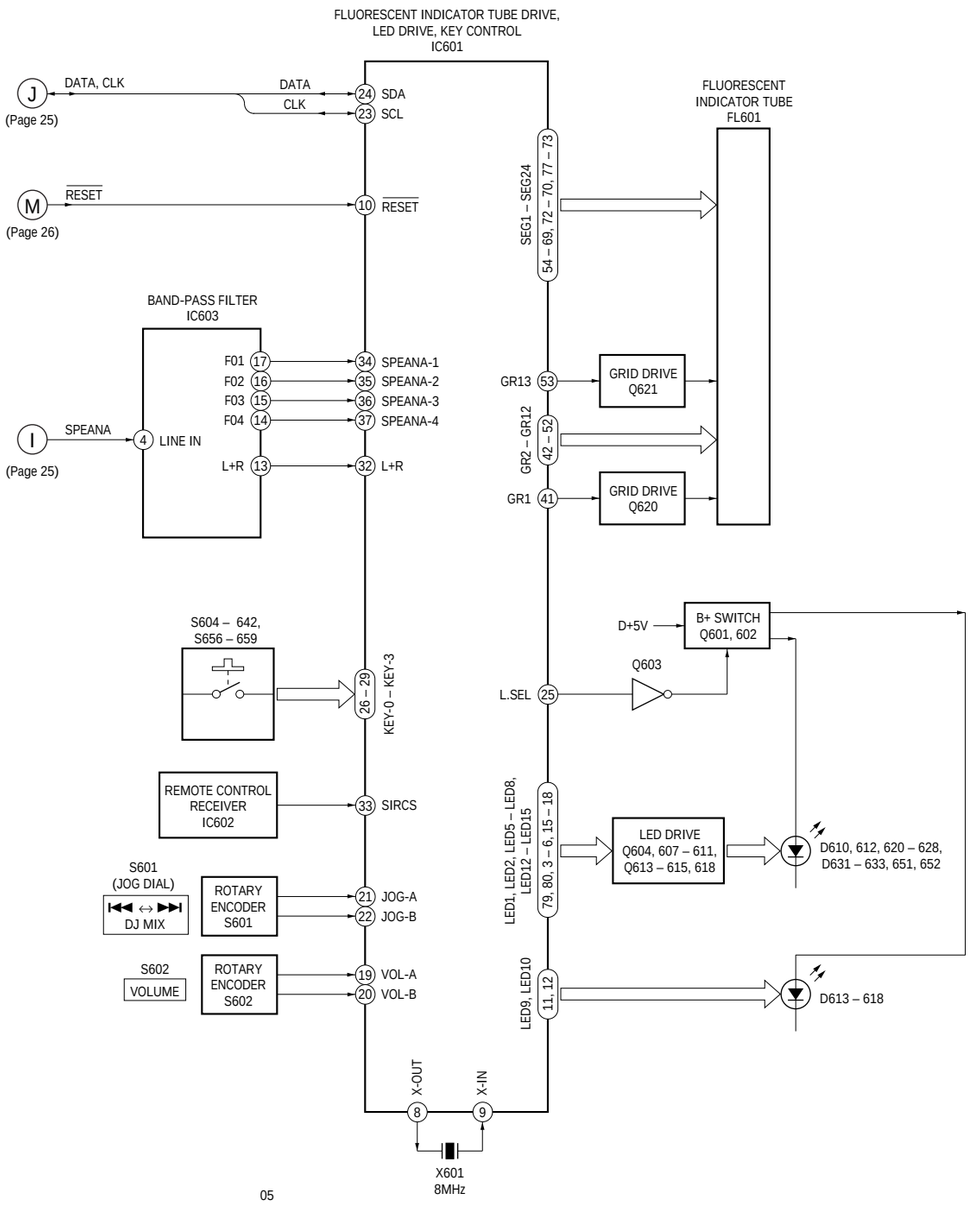


## 7-4. BLOCK DIAGRAM – MAIN Section –

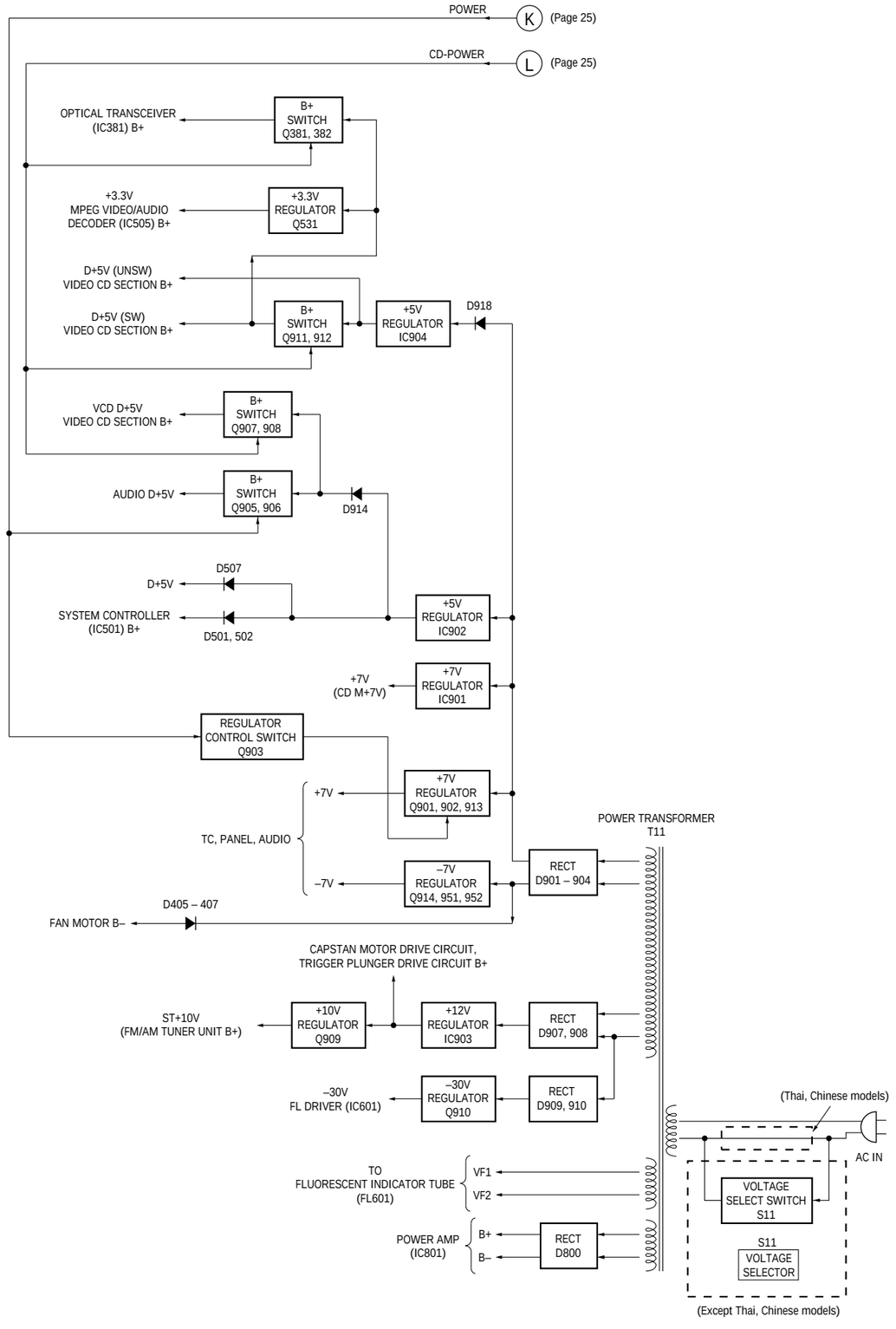
• SIGNAL PATH
: CD PLAY : TUNER (FM/AM)
: TAPE PLAY : MIC INPUT
: RECORD

J750 MIC 2
J751 MIC 1
MIC AMP IC750 (1/2)
RV750 MIC LEVEL
RV751 ECHO LEVEL
DIGITAL ECHO IC751
MIC AMP IC750 (2/2)
REC-L (H) (Page 24)
J101 (2/2) MD/VIDEO (AUDIO) OUT
L R R-CH
FAN MOTOR DRIVE Q401, 402
M401 (FAN MOTOR)
D403 D404
J421 PHONES
(Page 22) (E) CD-L
(Page 24) (G) PB-L
J101 (1/2) MD/VIDEO (AUDIO) IN
IN B2 IN C2 IN A2 IN D2
INPUT SELECT
SOUND CONTROL CIRCUIT
MIC IN
REC A2
REC B2
GRAPHIC EQUALIZER CONTROL CIRCUIT
F OUT2
VOL IN2
VOLUME CONTROL
VOL OUT2
BASS BOOST CONTROL CIRCUIT
BUF OUT2
LINE AMP IC191
J191 SUPER WOOFER
MUTING Q191
MUTING Q113
POWER AMP IC801
STANDBY SWITCH Q575
-1 -2
L R
TM401 SPEAKER IMPEDANCE USE 8 – 16Ω
GRAPHIC EQUALIZER CONTROL, ELECTRICAL VOLUME IC101
KEY IN2 KEY IN1 KEY OUT
CPU INTERFACE
COMMAND
DATA CLOCK LATCH
BB B2, BB A2
DC DETECT SWITCH Q433, 434
RY401
RELAY DRIVE Q431
PROTECTOR Q435, 436
FEED BACK SWITCH Q112
D141
DBFB CONTROL SWITCH Q111
OVER LOAD DETECT SWITCH Q432, 437
OVER LOAD DETECT Q801
D843
TH831
TEMPERATURE DETECT SWITCH Q831, 832
MUTING CONTROL SWITCH Q571, 572
+5V
RESET SIGNAL GENERATOR IC502
RESET SWITCH Q501
ANTENNA FM/AM TUNER UNIT
FM 75Ω AM
FM ANT ST-L
FM ANT ST-R R-CH
AM ANT ST-MUTE
STEREO
TUNED
ST-DIN ST-DOUT ST-CLK ST-CE
SPEANA MIXING AMP IC102
(Page 27) (I) SPEANA
(Page 21) (F) DATA, CLK
(Page 27) (J) DATA, CLK
(Page 28) (K) POWER
(Page 28) (L) CD-POWER
X501 5MHz
X502 32.768kHz
SYSTEM CONTROLLER IC501 (3/3)
ST-CE ST-CLK ST-DIN ST-DOUT TUNED STEREO ST-MUTE
X2 X1 XT2 XT1
CD-POWER POWER IIC-DATA IIC-CLK
M62442-DATA M62442-CLK M62442-LATCH
DBFB-H/L
LINE-MUTE
STK-MUTE
AC-CUT
RESET
XRST
F-RELAY
(Page 27) (M) RESET
(Page 21) (D) RESET
05

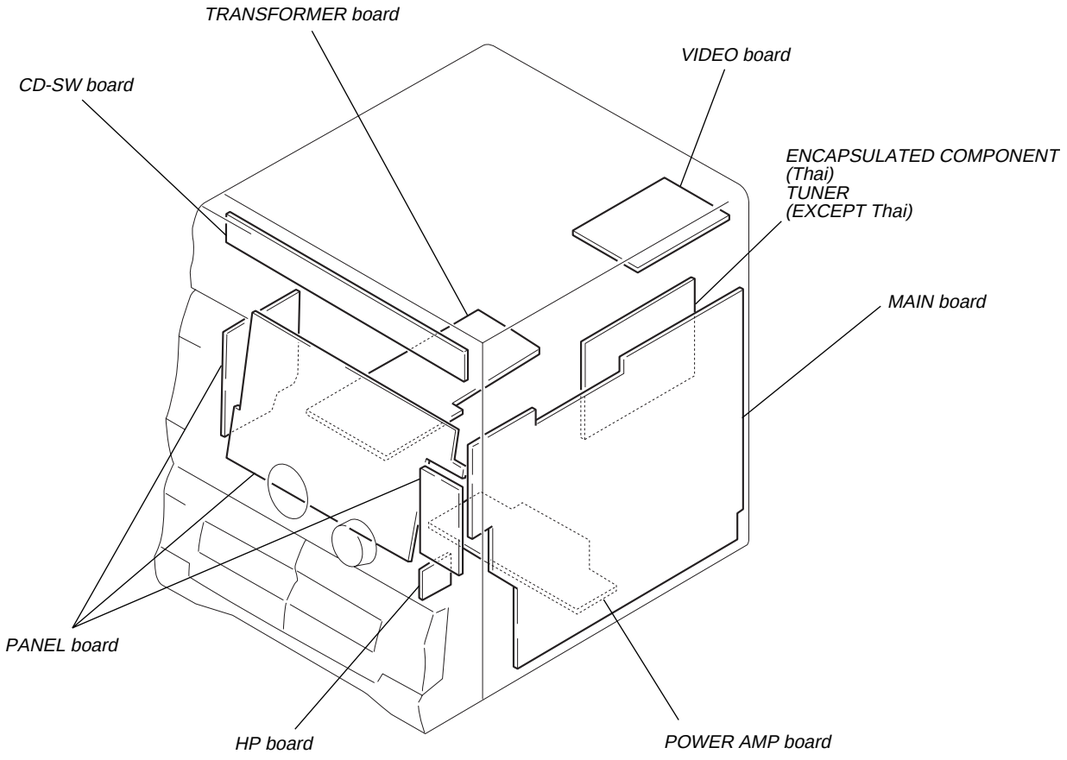
## 7-5. BLOCK DIAGRAM – DISPLAY/KEY CONTROL/POWER SUPPLY Section –

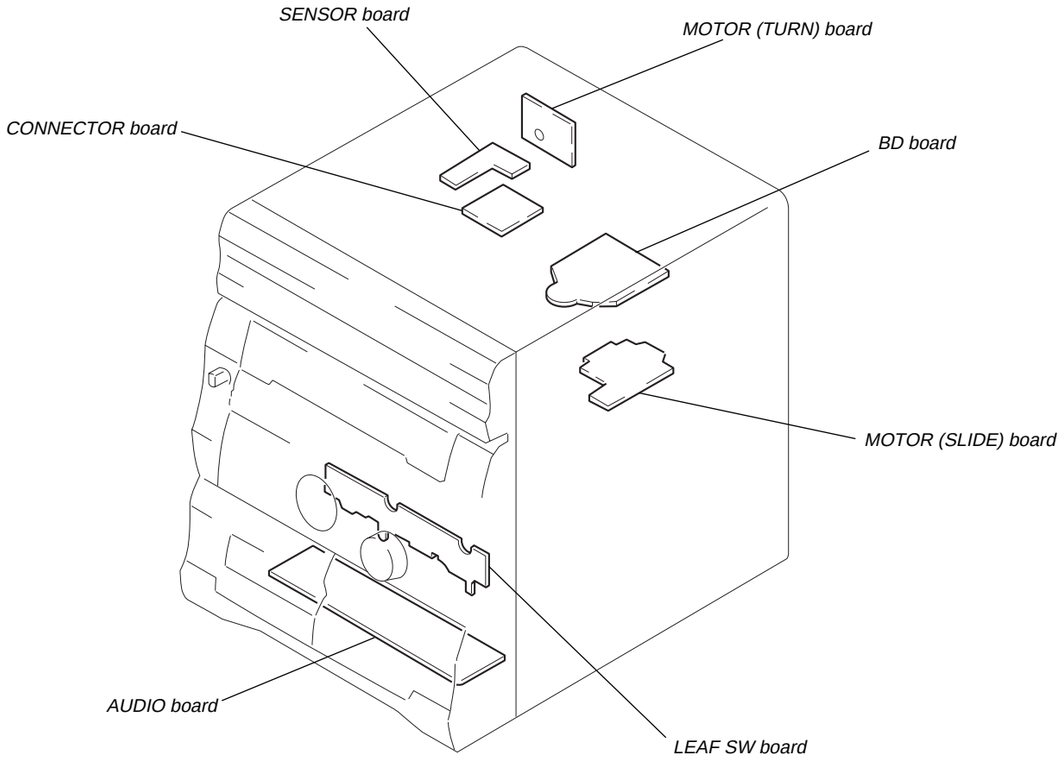



05



**• Circuit Boards Location**






## 7-6. NOTE FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

**Note on Schematic Diagrams:**

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- : nonflammable resistor.
- : fusible resistor.
- : panel designation.

**Note:** The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- B+ : B+ Line.
- B− : B– Line.
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  - : TUNER (FM/AM)
  - : PLAYBACK (DECK A)
  - : PLAYBACK (DECK B)
  - : RECORD
  - : CD PLAY (AUDIO)
  - : CD PLAY (VIDEO)
  - : DIGITAL OUT
  - : MIC INPUT
- Abbreviation
  - CH : Chinese model.
  - TH : Thai model.

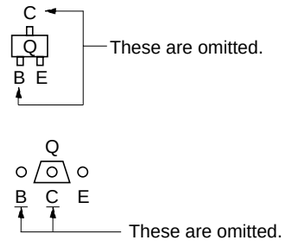
**Note on Printed Wiring Boards:**

- ○——— : parts extracted from the component side.
- ○ : Through hole.
- ▒▒▒ : Pattern from the side which enables seeing.

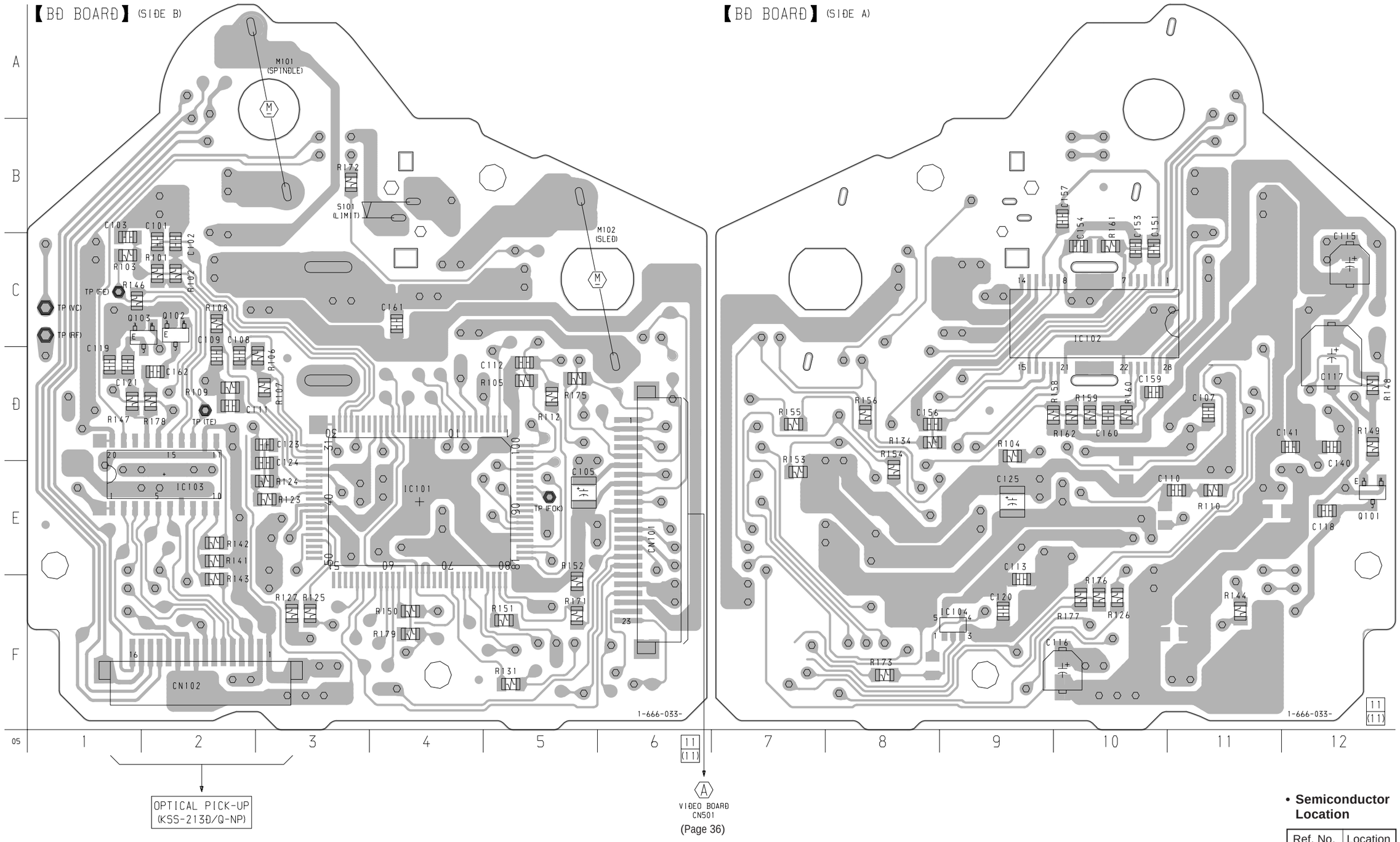
(The other layers' patterns are not indicated.)

| Caution: | |
|---|---|
| Pattern face side: (Side B) | Parts on the pattern face side seen from the pattern face are indicated. |
| Parts face side: (Side A) | Parts on the parts face side seen from the parts face are indicated. |

- Indication of transistor.



## 7-7. PRINTED WIRING BOARD – BD Section – • See page 29 for Circuit Boards Location.

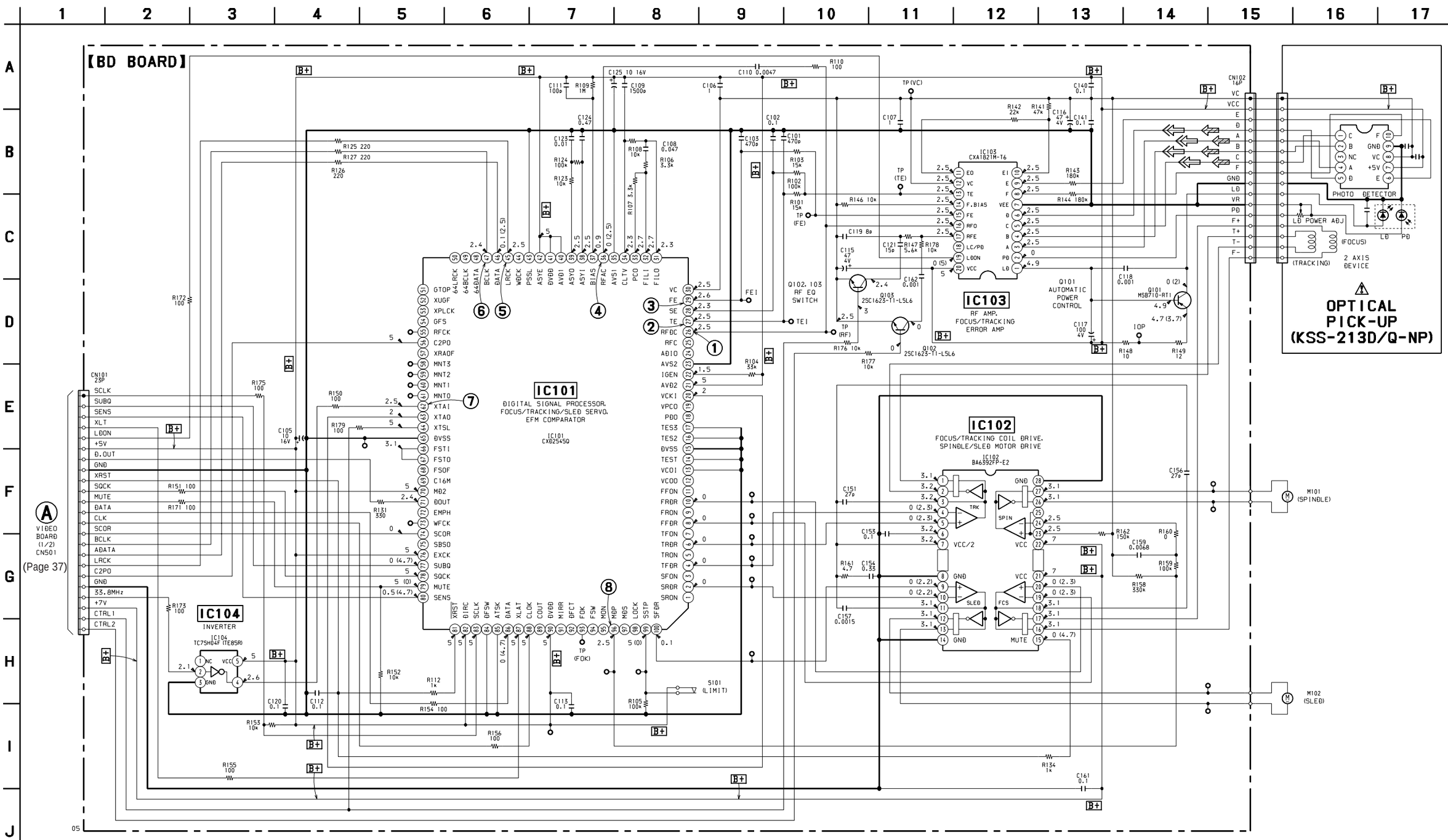



• **Semiconductor Location**

| Ref. No. | Location |
|---|---|
| IC101 | E-4 |
| IC102 | C-10 |
| IC103 | E-2 |
| IC104 | F-9 |
| Q101 | E-12 |
| Q102 | C-2 |
| Q103 | C-2 |

## 7-8. SCHEMATIC DIAGRAM – BD Section –

• See page 73 for Waveforms. • See page 76 and 77 for IC Block Diagrams.

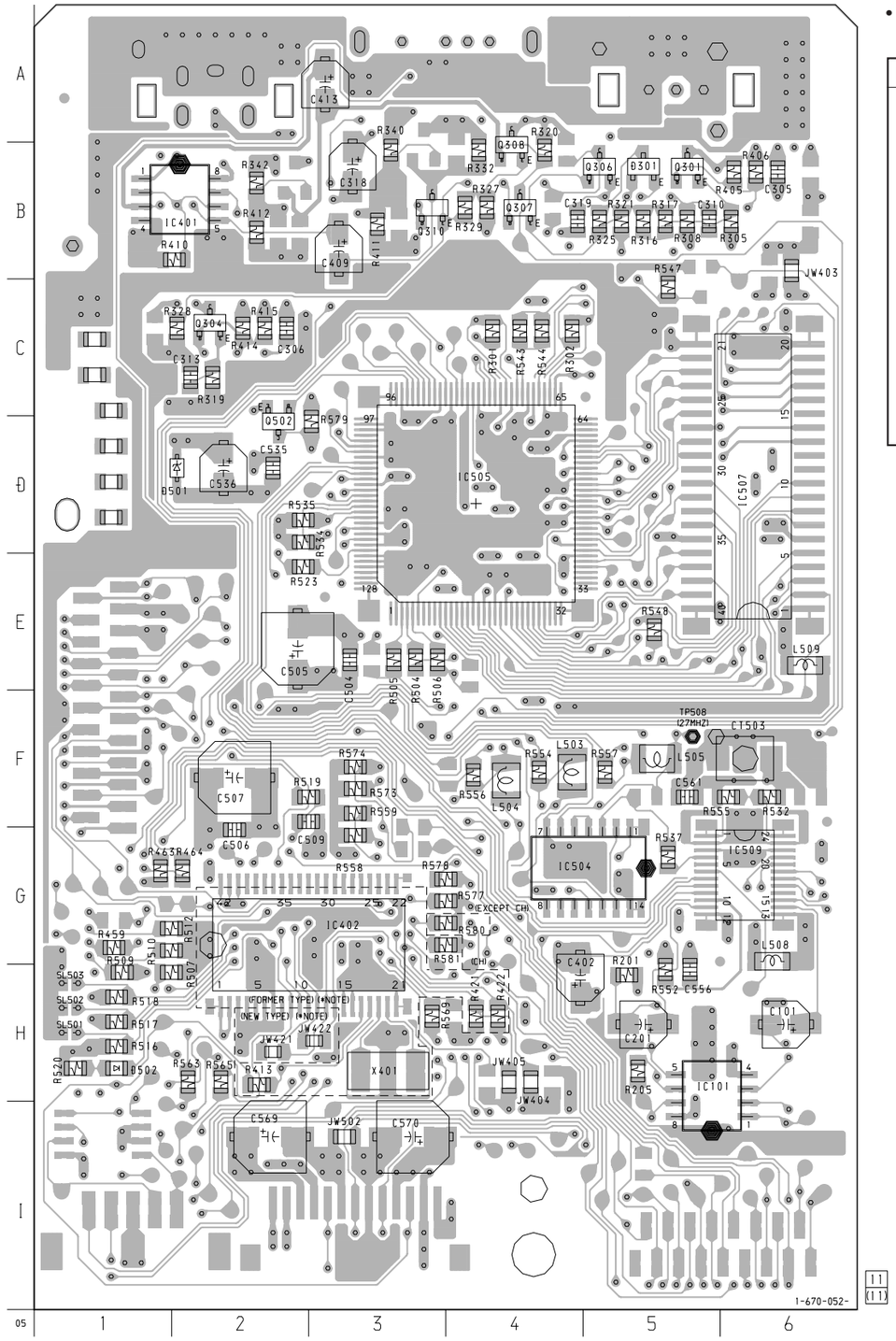



- Voltages and waveforms are dc with respect to ground in CD play mode.
  no mark : CD stop
  ( ) : CD play

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

## 7-9. PRINTED WIRING BOARD – VIDEO Section – • See page 29 for Circuit Boards Location.

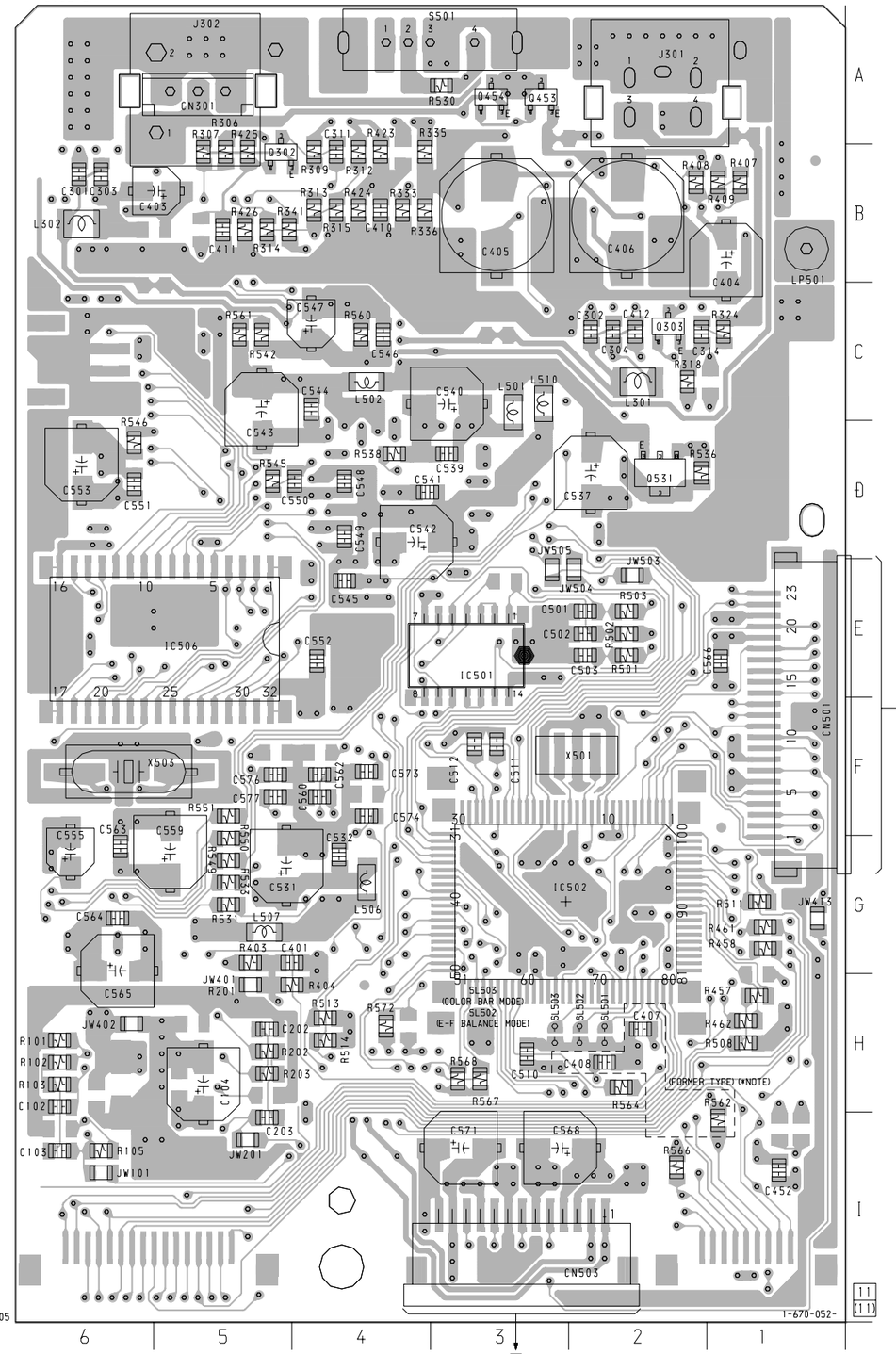
【VIDEO BOARD】 (SIDE A)




• **Semiconductor Location**

| Ref. No. | Location |
|---|---|
| D301 | B-5 |
| D501 | D-2 |
| D502 | H-1 |
| IC101 | H-5 |
| IC401 | B-2 |
| IC402 | G-3 |
| IC504 | G-4 |
| IC505 | D-4 |
| IC507 | D-6 |
| Q301 | B-5 |
| Q304 | C-2 |
| Q306 | B-5 |
| Q307 | B-4 |
| Q308 | B-4 |
| Q310 | B-3 |
| Q502 | D-2 |

【VIDEO BOARD】 (SIDE B)




• **Semiconductor Location**

| Ref. No. | Location |
|---|---|
| IC501 | E-3 |
| IC502 | G-3 |
| IC506 | E-5 |
| IC509 | G-6 |
| Q302 | B-5 |
| Q303 | C-2 |
| Q453 | A-3 |
| Q454 | A-3 |
| Q531 | D-2 |

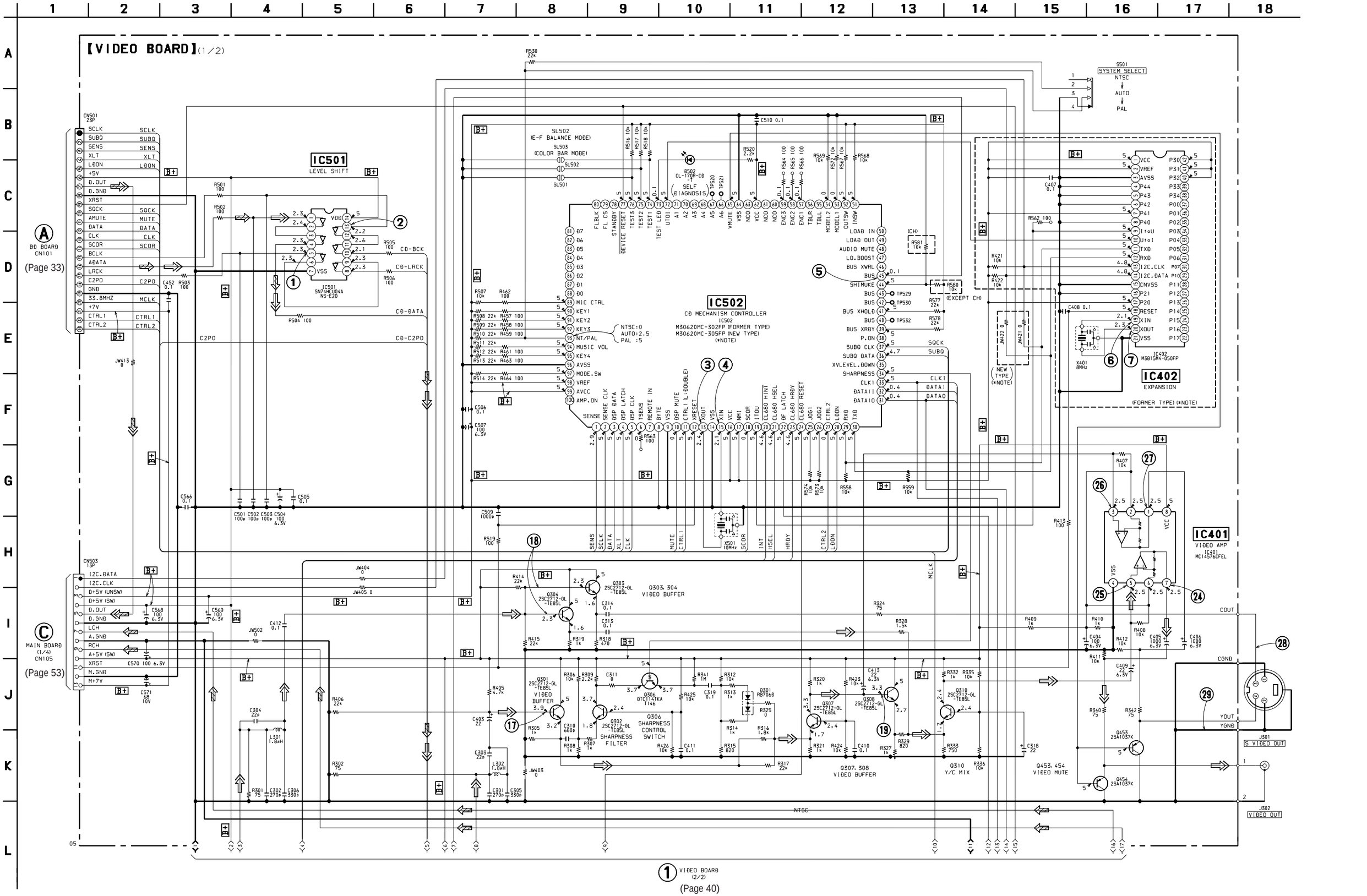
(A) BD BOARD CN101 (Page 31)

(C) MAIN BOARD CN105 (Page 51)

*Note
When replacing IC502, refer to “IC502 of VIDEO board” in “Servicing Notes” (page 4).

## 7-10. SCHEMATIC DIAGRAM – VIDEO Section (1/2) –

• See page 73 to 75 for IC Block Diagrams.




(1) VIDEO BOARD (2/2) (Page 40)

• Voltages and waveforms are dc with respect to ground in VIDEO CD play mode.
no mark : VIDEO CD play

*Note
When replacing IC502, refer to "IC502 of VIDEO board" in "Servicing Notes" (page 4).

## 7-11. SCHEMATIC DIAGRAM – VIDEO Section (2/2) –

• See page 73 to 75 for Waveforms. • See page 77 for IC Block Diagram.

【VIDEO BOARD】(2/2)

① VIDEO BOARD (1/2) (Page 38)

IC505
MPEG VIDEO/AUDIO DECODER
VIDEO SIGNAL PROCESSOR
IC505 CL680

IC509
DIGITAL FILTER
D/A CONVERTER
IC509 PCM1727E-2

IC101
LOW-PASS FILTER
IC101 (1/2) NJM4580E-D (T1)
IC101 (2/2) NJM4580E-D (T1)

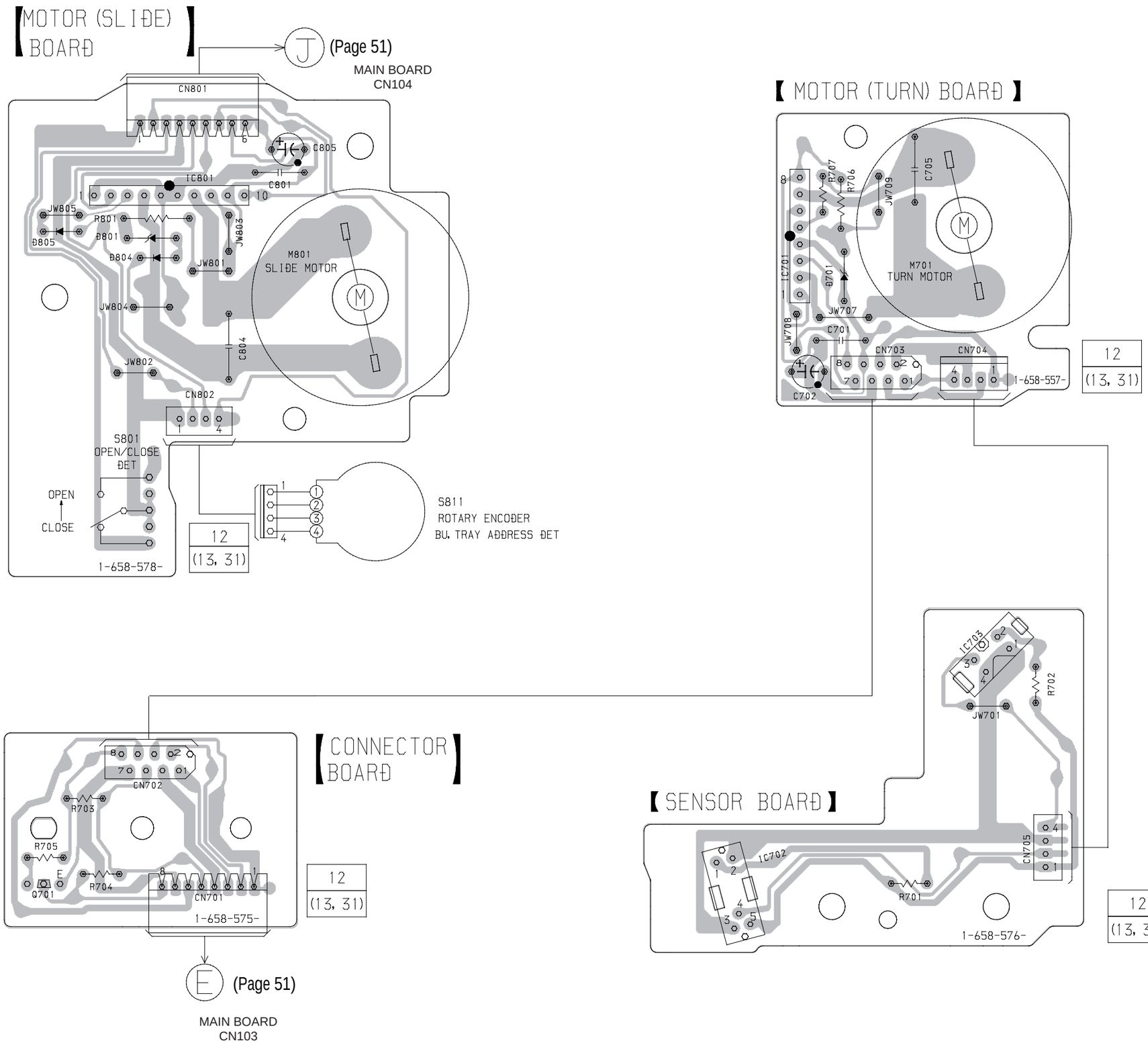
IC507
D-RAM
IC507 MSM51V4260C-60JSBR

IC506
PROGRAM ROM
IC506 LC372100PM

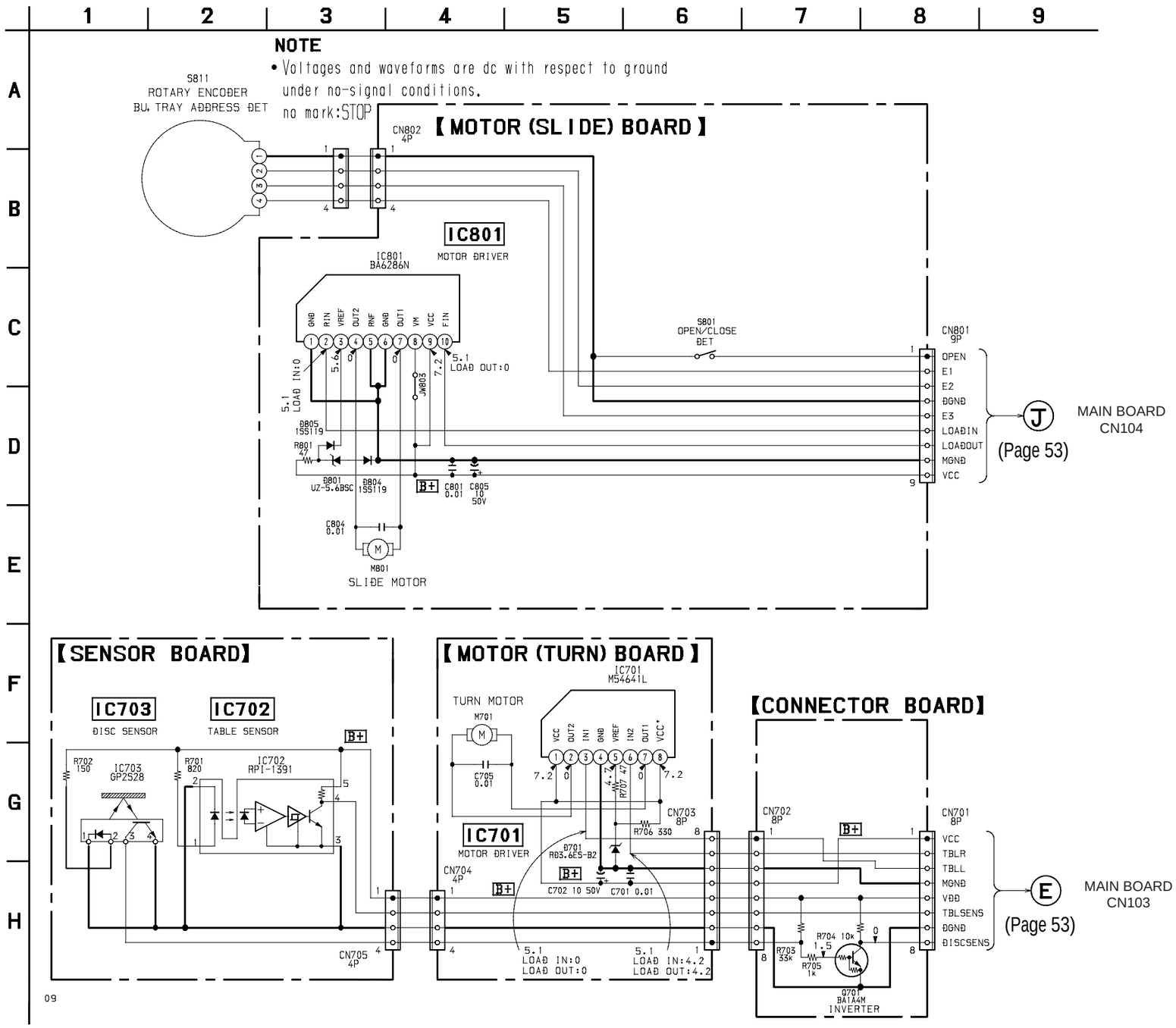
IC504
OSC BUFFER
IC504 SN74HCU04A N5-E20

Q531 2SD999-T1-CLCK +3.3V REGULATOR
Q502 2SC2712 BUFFER
D501 UDZ-TE-17-3.9B
X503 27MHz
TP526

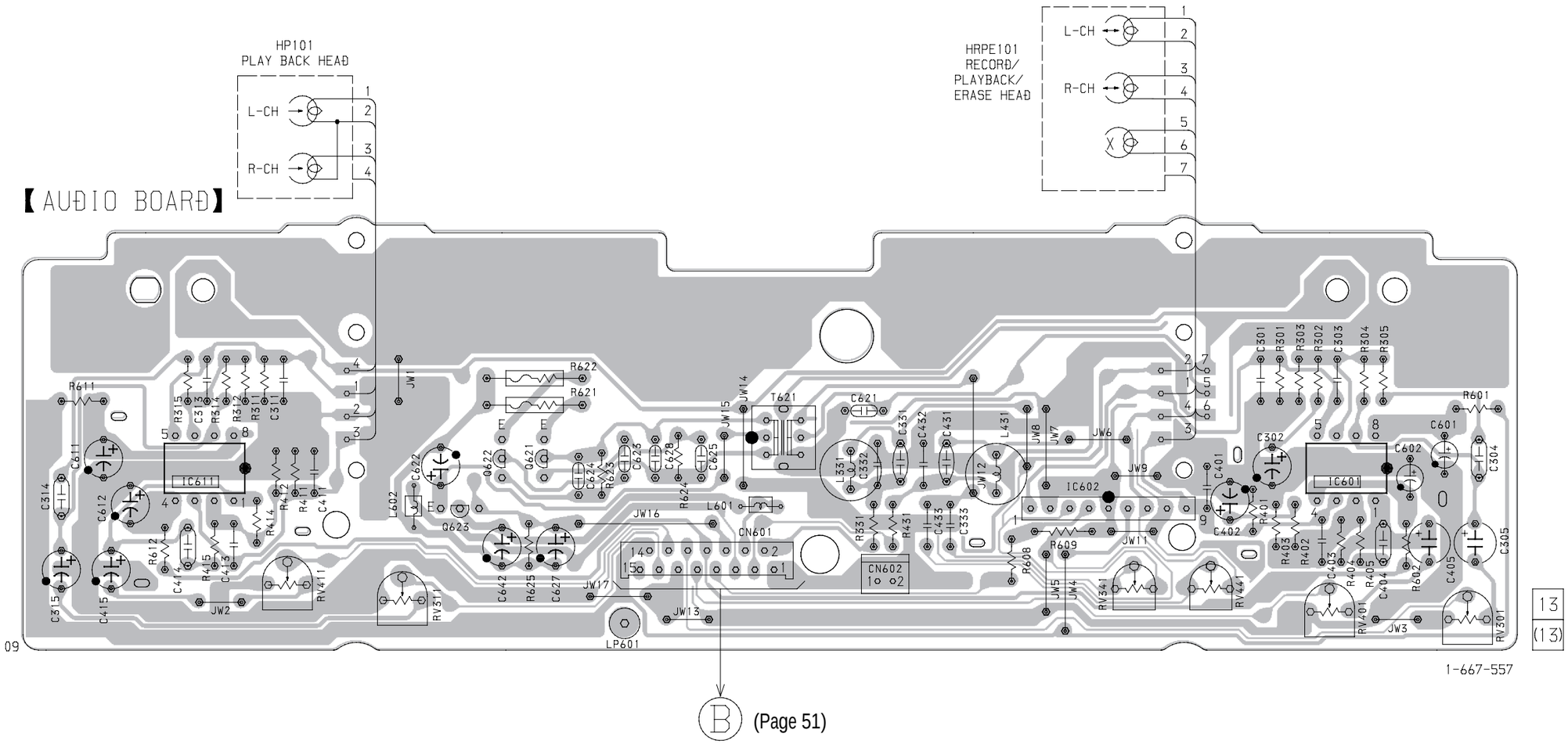
## 7-12. PRINTED WIRING BOARDS – CD MOTOR Section – • See page 29 for Circuit Boards Location.



## 7-13. SCHEMATIC DIAGRAM – CD MOTOR Section – • See page 78 for IC Block Diagrams.



## 7-14. PRINTED WIRING BOARD – TAPE DECK Section – • See page 29 for Circuit Boards Location.




(Page 51)

MAIN BOARD
CN106

## 7-15. SCHEMATIC DIAGRAM – TAPE DECK Section – • See page 78 for IC Block Diagram.

【AUDIO BOARD】

**NOTE**
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
no mark:PLAY
( ):REC

— A DECK —
HP101
PLAYBACK
HEAD

— B DECK —
HRPE101
RECORD/PLAYBACK/
ERASE HEAD

L-CH
R-CH

IC611
A DECK
PB AMP
IC611 (2)
#PC4570C-1
IC611 (1)(2)
#PC4570C-1

A DECK
PB LEVEL L
A DECK
PB LEVEL R

IC601
B DECK
PB AMP
IC601 (2)
#PC4570C-1
IC601 (1)(2)
#PC4570C-1

B DECK
PB LEVEL L
B DECK
PB LEVEL R

IC602
IC602
#PCT330HA
REC/PB
SWITCH
SW.R1
GND
SW.P1
CONT.
GND
VCC
SW.P2
GND
SW.R2

REC
BIAS R
REC
BIAS L

Q621, 622
BIAS OSC
Q621
2SC2001
Q622
2SC2001
Q623
BIAS ON/OFF
SWITCH
Q623
2SD1387

T621

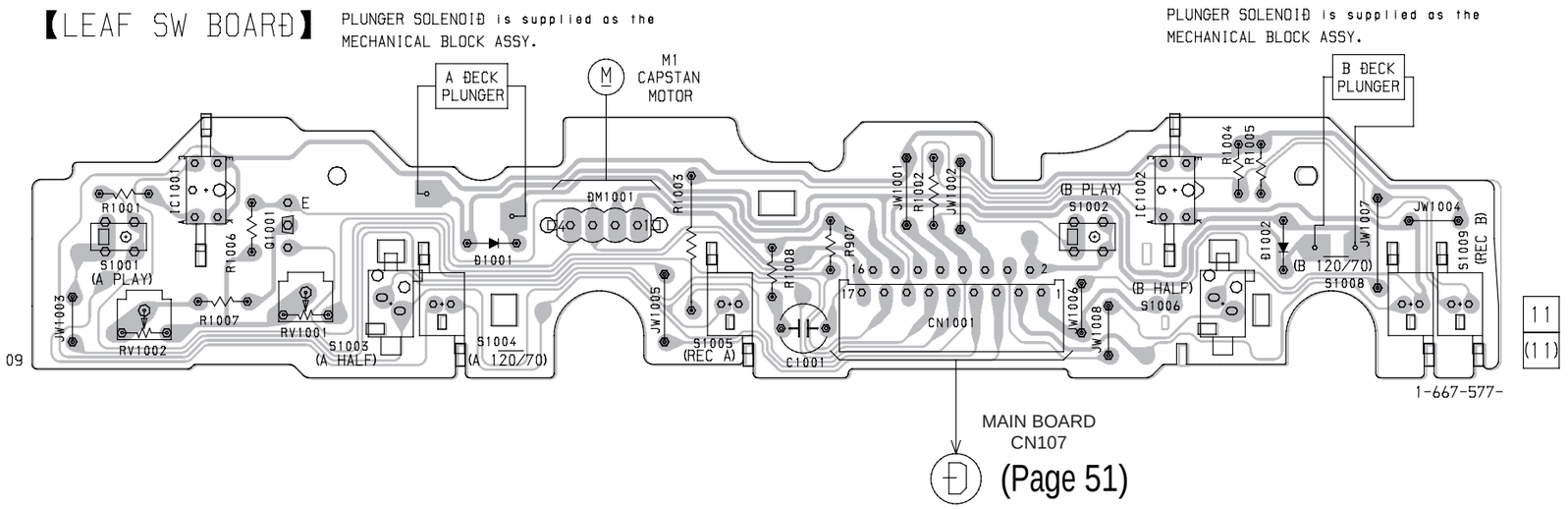
CN601
15P
FFC

V+_PB
APB_LCH
APB_RCH
GND_PB
BPB_LCH
BPB_RCH
V-_PB
RELAY
BIAS
V-_BIAS
V+_BIAS
REC_RCH
REC_LCH
HEADEARTH

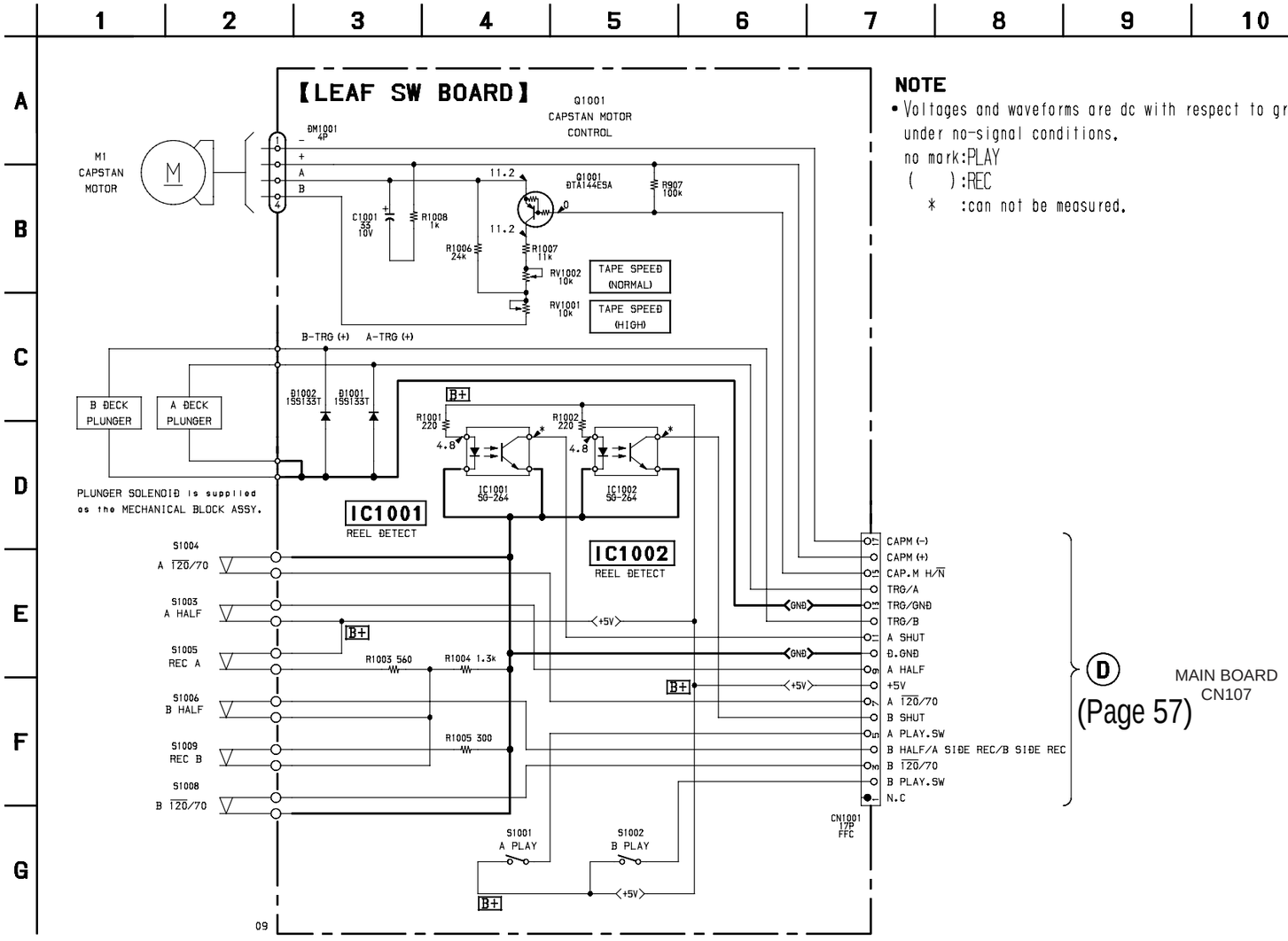
B MAIN BOARD
CN106
(Page 57)

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

### 7-16. PRINTED WIRING BOARD – LEAF SW Section – • See page 29 for Circuit Boards Location.




### 7-17. SCHEMATIC DIAGRAM – LEAF SW Section –

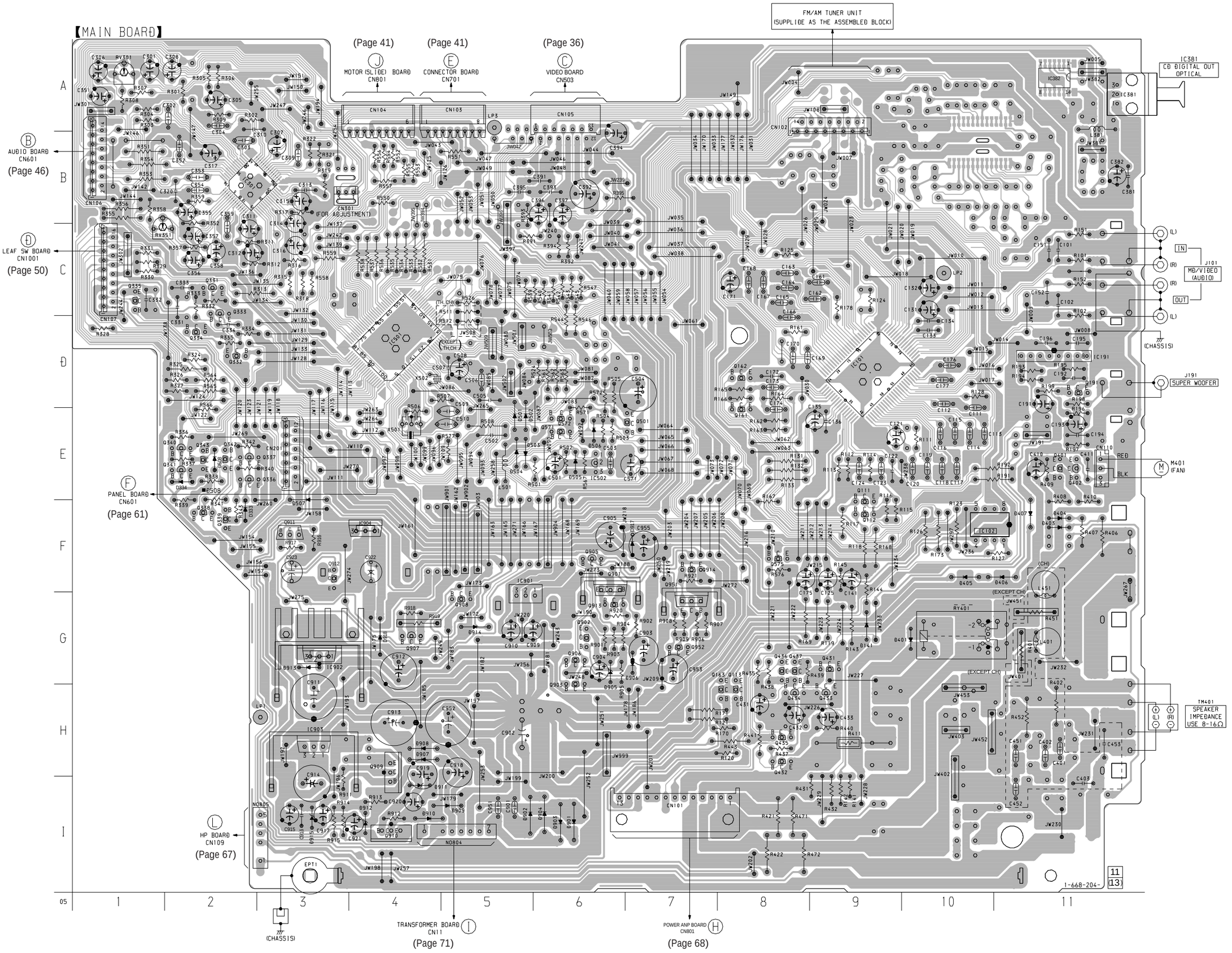



• **Semiconductor Location**

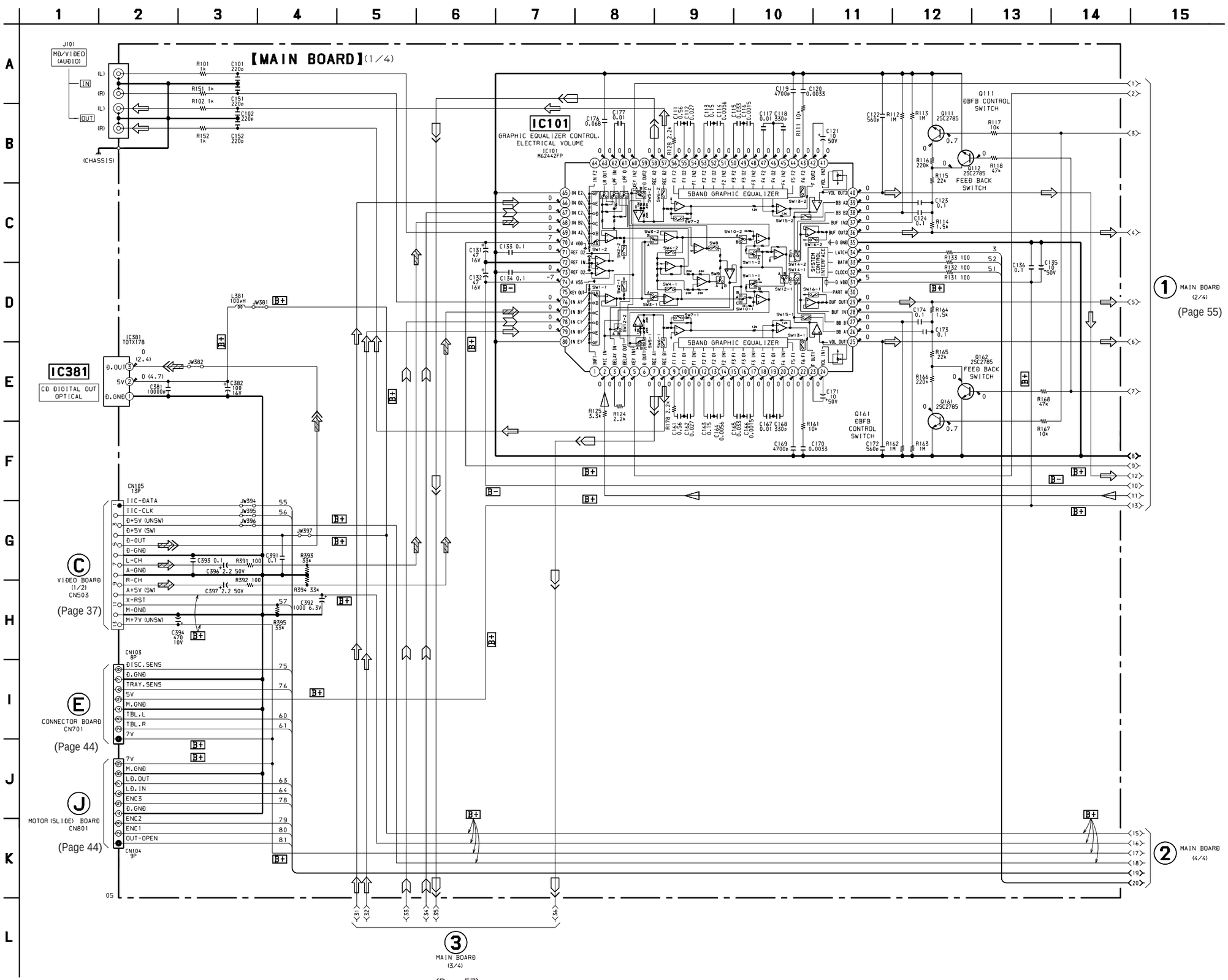
| Ref. No. | Location | Ref. No. | Location |
|---|---|---|---|
| D141 | G-9 | Q112 | F-9 |
| D333 | E-2 | Q113 | H-8 |
| D334 | F-2 | Q161 | E-8 |
| D401 | G-10 | Q162 | D-8 |
| D403 | F-11 | Q163 | H-8 |
| D404 | F-11 | Q191 | D-11 |
| D405 | F-10 | Q331 | C-2 |
| D406 | F-11 | Q332 | D-2 |
| D407 | F-11 | Q333 | C-2 |
| D501 | E-5 | Q334 | D-2 |
| D502 | E-5 | Q335 | C-1 |
| D503 | E-5 | Q336 | E-2 |
| D504 | E-5 | Q337 | E-2 |
| D505 | E-6 | Q338 | F-2 |
| D506 | E-6 | Q339 | F-2 |
| D507 | F-3 | Q340 | E-2 |
| D508 | F-2 | Q341 | E-2 |
| D901 | I-6 | Q342 | E-2 |
| D902 | I-5 | Q343 | E-2 |
| D903 | I-6 | Q401 | E-11 |
| D904 | I-6 | Q402 | E-11 |
| D905 | G-6 | Q431 | G-9 |
| D906 | G-7 | Q432 | H-8 |
| D907 | H-4 | Q433 | H-9 |
| D908 | H-4 | Q434 | H-8 |
| D909 | I-5 | Q435 | H-8 |
| D910 | I-4 | Q436 | G-8 |
| D911 | I-4 | Q437 | G-8 |
| D912 | I-4 | Q501 | E-7 |
| D913 | G-3 | Q571 | E-6 |
| D914 | G-5 | Q572 | E-6 |
| D915 | I-3 | Q575 | F-8 |
| D917 | F-7 | Q901 | F-6 |
| D918 | G-4 | Q902 | G-6 |
| | | Q903 | H-6 |
| IC101 | D-9 | Q905 | F-6 |
| IC102 | F-10 | Q906 | G-6 |
| IC191 | D-11 | Q907 | G-4 |
| IC301 | B-2 | Q908 | G-5 |
| IC381 | A-11 | Q909 | H-4 |
| IC501 | D-4 | Q910 | I-4 |
| IC502 | E-6 | Q911 | F-3 |
| IC901 | G-5 | Q912 | F-3 |
| IC902 | G-3 | Q913 | G-6 |
| IC903 | H-3 | Q914 | F-7 |
| IC904 | F-4 | Q951 | G-7 |
| | | Q952 | G-7 |
| Q111 | F-9 | | |

## 7-18. PRINTED WIRING BOARD – MAIN Section –

• See page 29 for Circuit Boards Location.

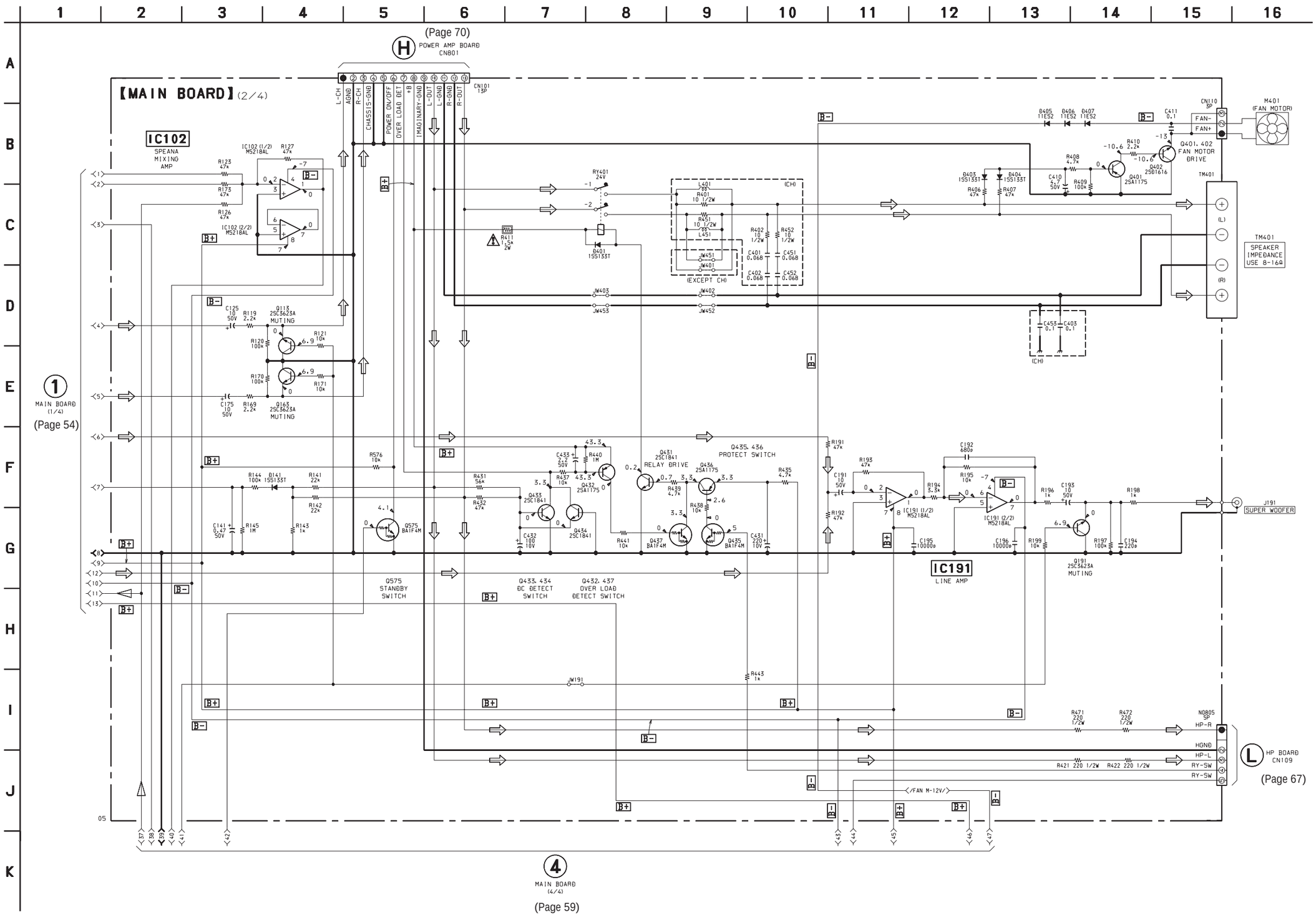


## 7-19. SCHEMATIC DIAGRAM – MAIN Section (1/4) –




- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
  ( ) : CD

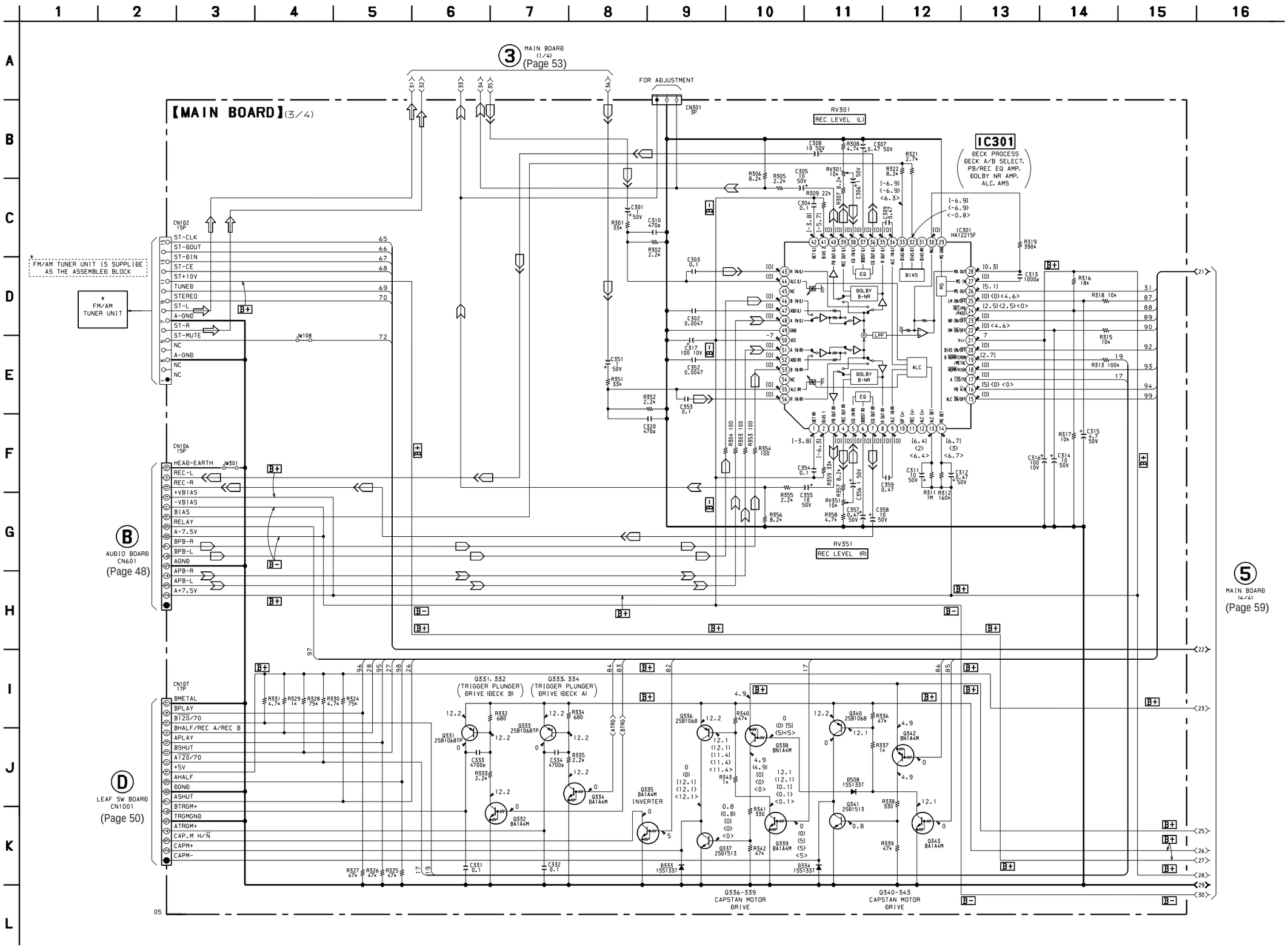
## 7-20. SCHEMATIC DIAGRAM – MAIN Section (2/4) –




- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM

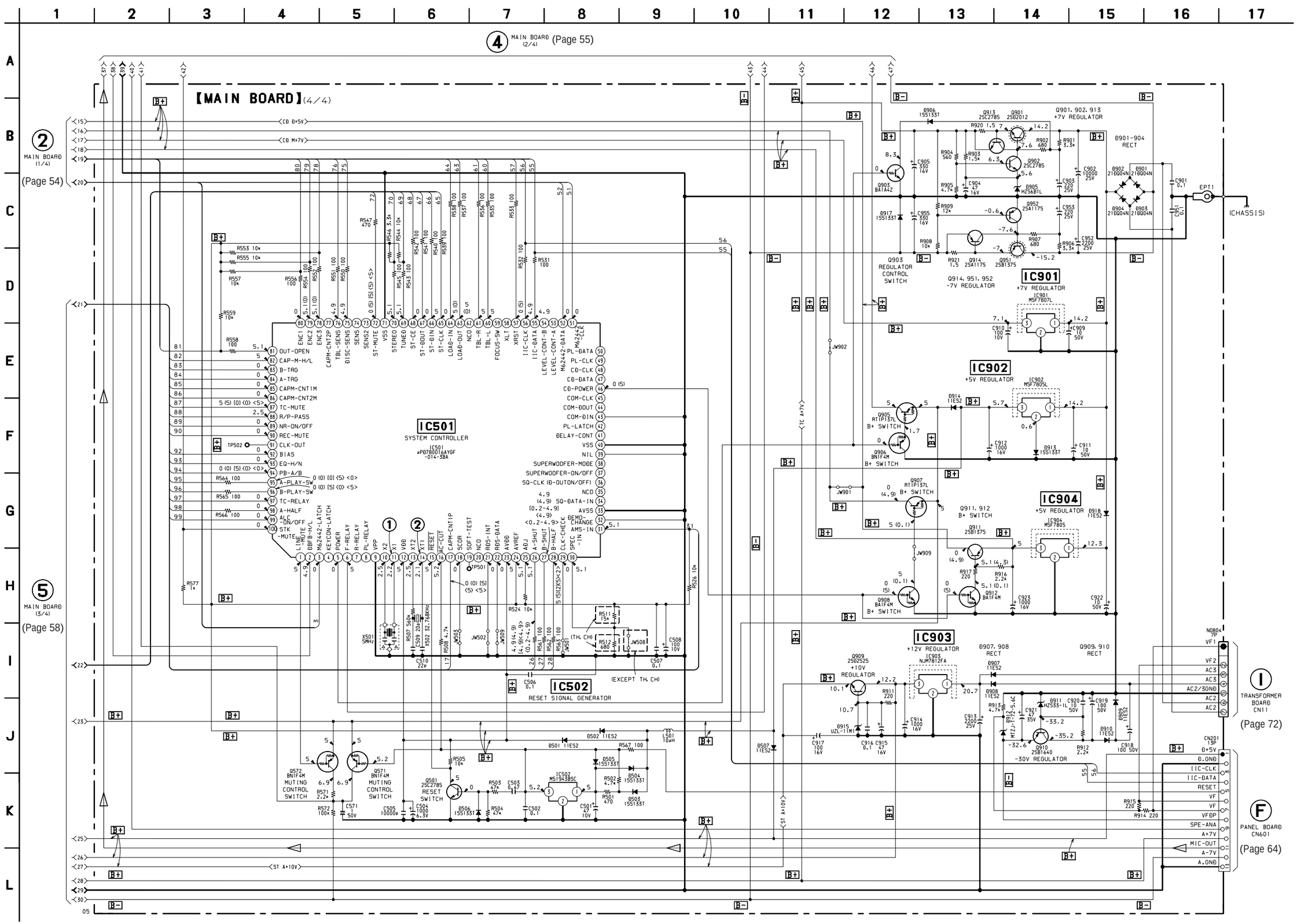
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

## 7-21. SCHEMATIC DIAGRAM – MAIN Section (3/4) –



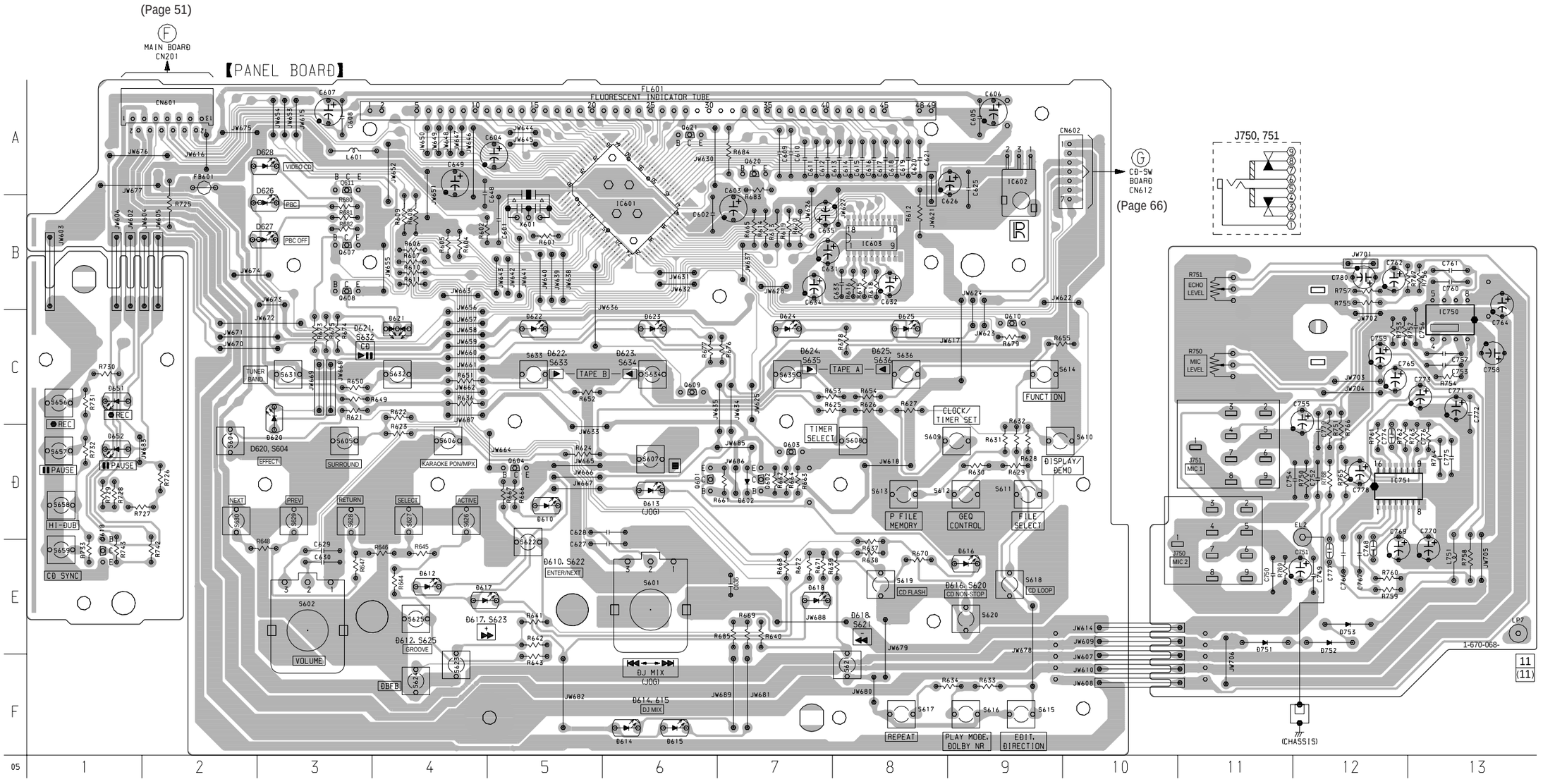

- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM { } : PB (DECK A)
  ( ) : CD [ ] : PB (DECK B)
  < > : REC

## 7-22. SCHEMATIC DIAGRAM – MAIN Section (4/4) – • See page 75 for Waveforms.




• Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
no mark : FM { } : PB (DECK A)
( ) : CD [ ] : PB (DECK B)
< > : REC

## 7-23. PRINTED WIRING BOARD – PANEL Section – • See page 29 for Circuit Boards Location.

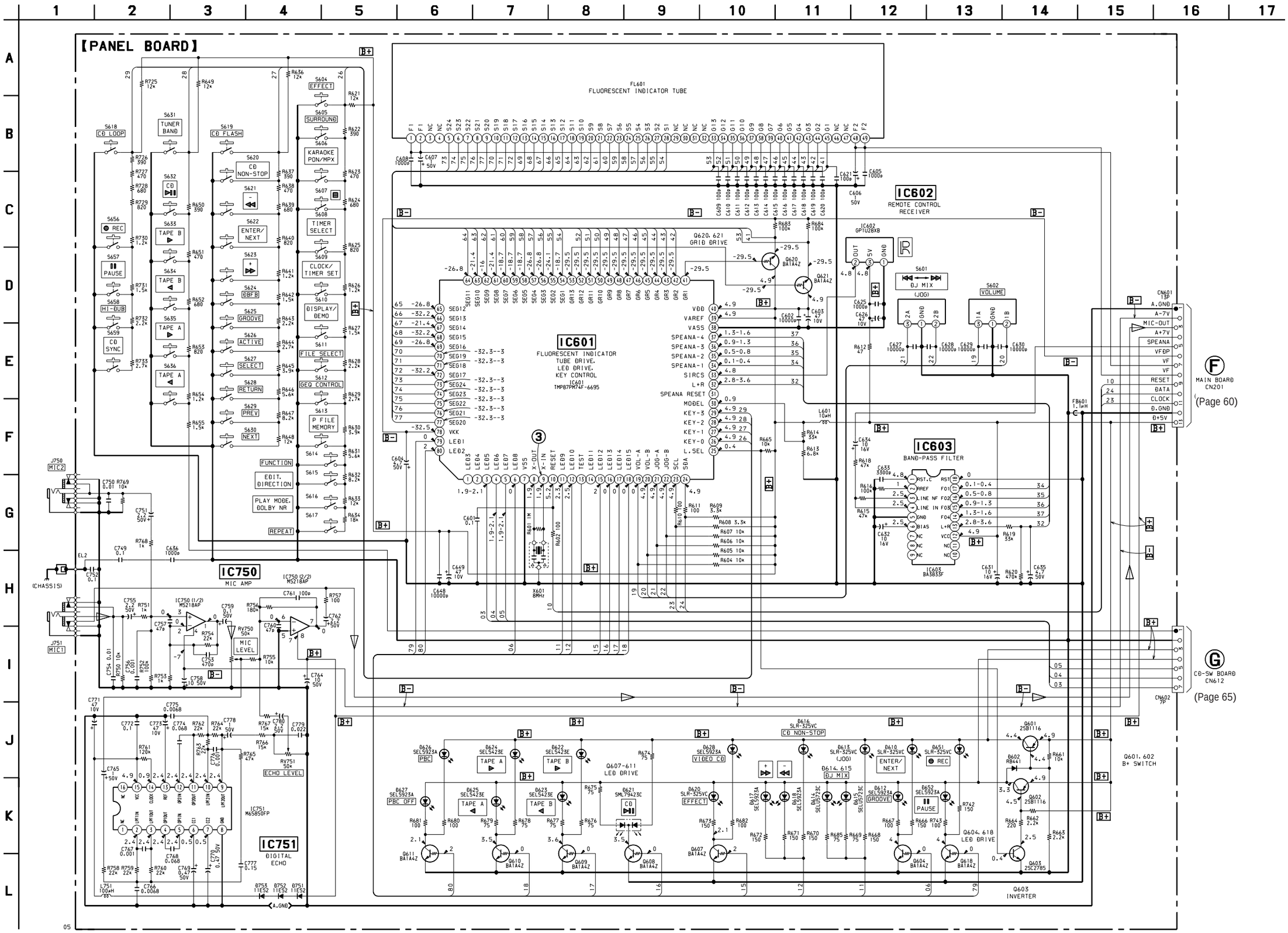



• **Semiconductor Location**

| Ref. No. | Location | Ref. No. | Location | Ref. No. | Location |
|---|---|---|---|---|---|
| D602 | D-7 | D626 | B-3 | Q601 | D-6 |
| D610 | D-5 | D627 | B-3 | Q602 | D-7 |
| D612 | E-4 | D628 | A-3 | Q603 | D-7 |
| D613 | D-6 | D651 | C-1 | Q604 | D-5 |
| D614 | F-6 | D652 | D-1 | Q607 | B-3 |
| D615 | F-6 | D751 | E-11 | Q608 | B-3 |
| D616 | E-9 | D752 | E-12 | Q609 | C-6 |
| D617 | E-4 | D753 | E-12 | Q610 | C-9 |
| D618 | E-7 | | | Q611 | A-3 |
| D620 | C-3 | IC601 | B-6 | Q618 | E-1 |
| D621 | C-4 | IC602 | A-9 | Q620 | A-7 |
| D622 | C-5 | IC603 | B-8 | Q621 | A-6 |
| D623 | C-6 | IC750 | C-13 | | |
| D624 | C-7 | IC751 | D-12 | | |
| D625 | C-8 | | | | |

## 7-24. SCHEMATIC DIAGRAM – PANEL Section –

• See page 75 for Waveform. • See page 78 for IC Block Diagrams.



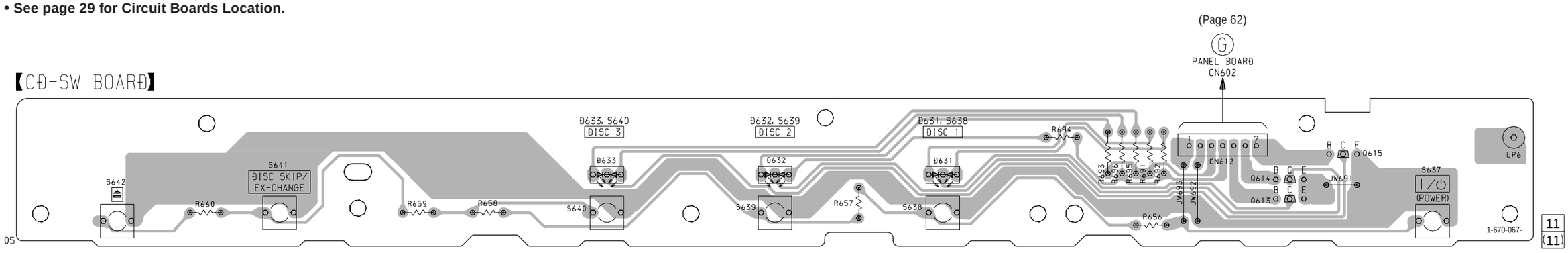




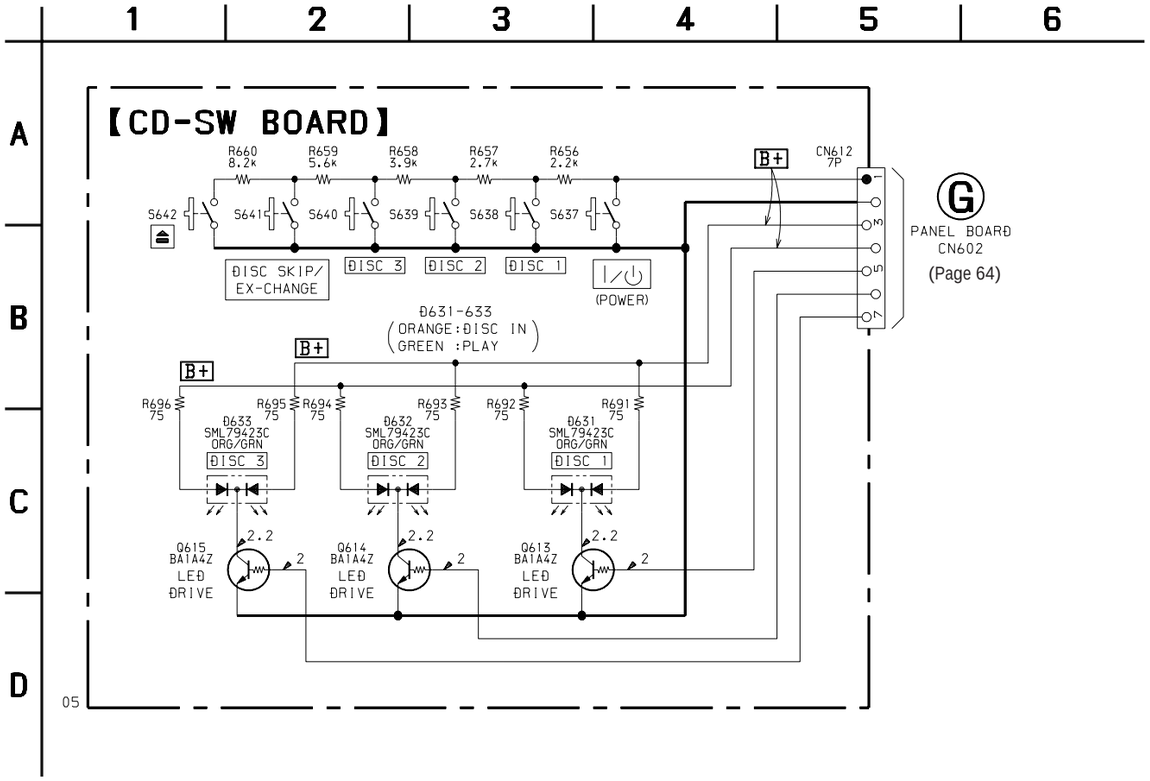

• Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
no mark : FM

## 7-25. PRINTED WIRING BOARD – CD-SW Section –

• See page 29 for Circuit Boards Location.



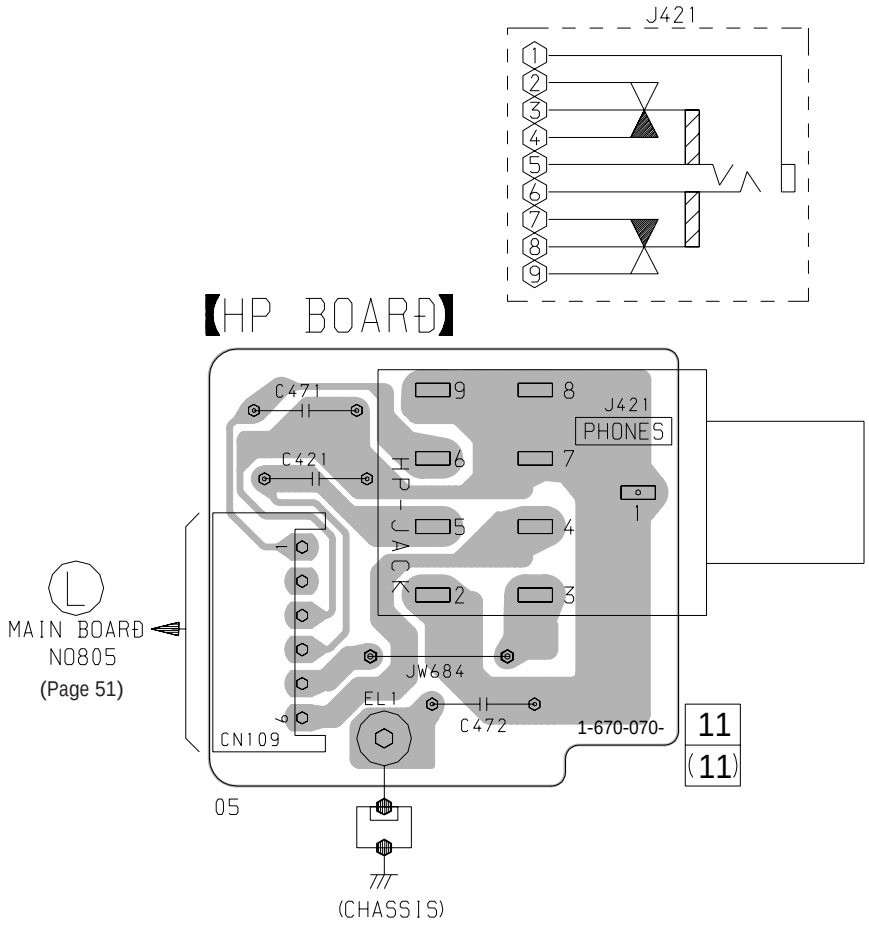

## 7-26. SCHEMATIC DIAGRAM – CD-SW Section –



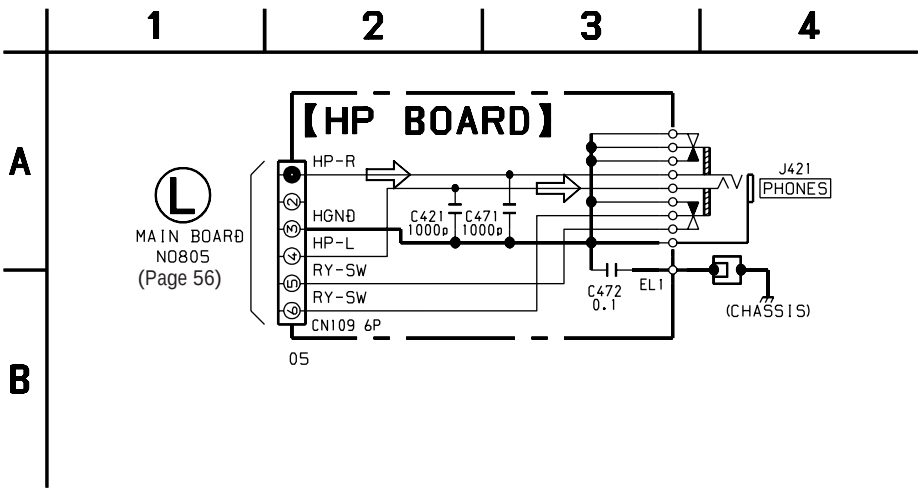

• Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
no mark : FM

### 7-27. PRINTED WIRING BOARD – HP Section –

• See page 29 for Circuit Boards Location.

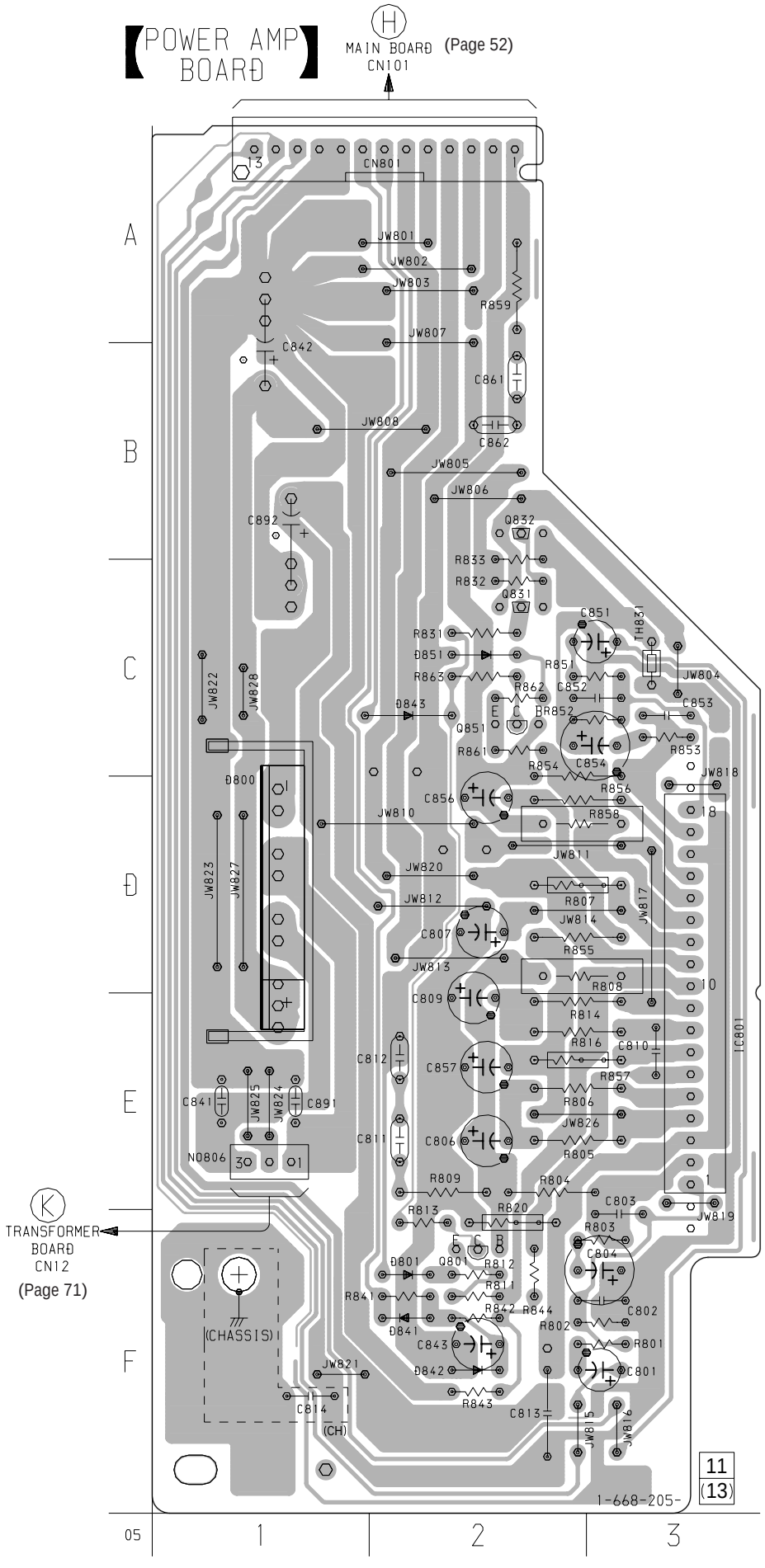



### 7-28. SCHEMATIC DIAGRAM – HP Section –



### 7-29. PRINTED WIRING BOARD – POWER AMP Section –

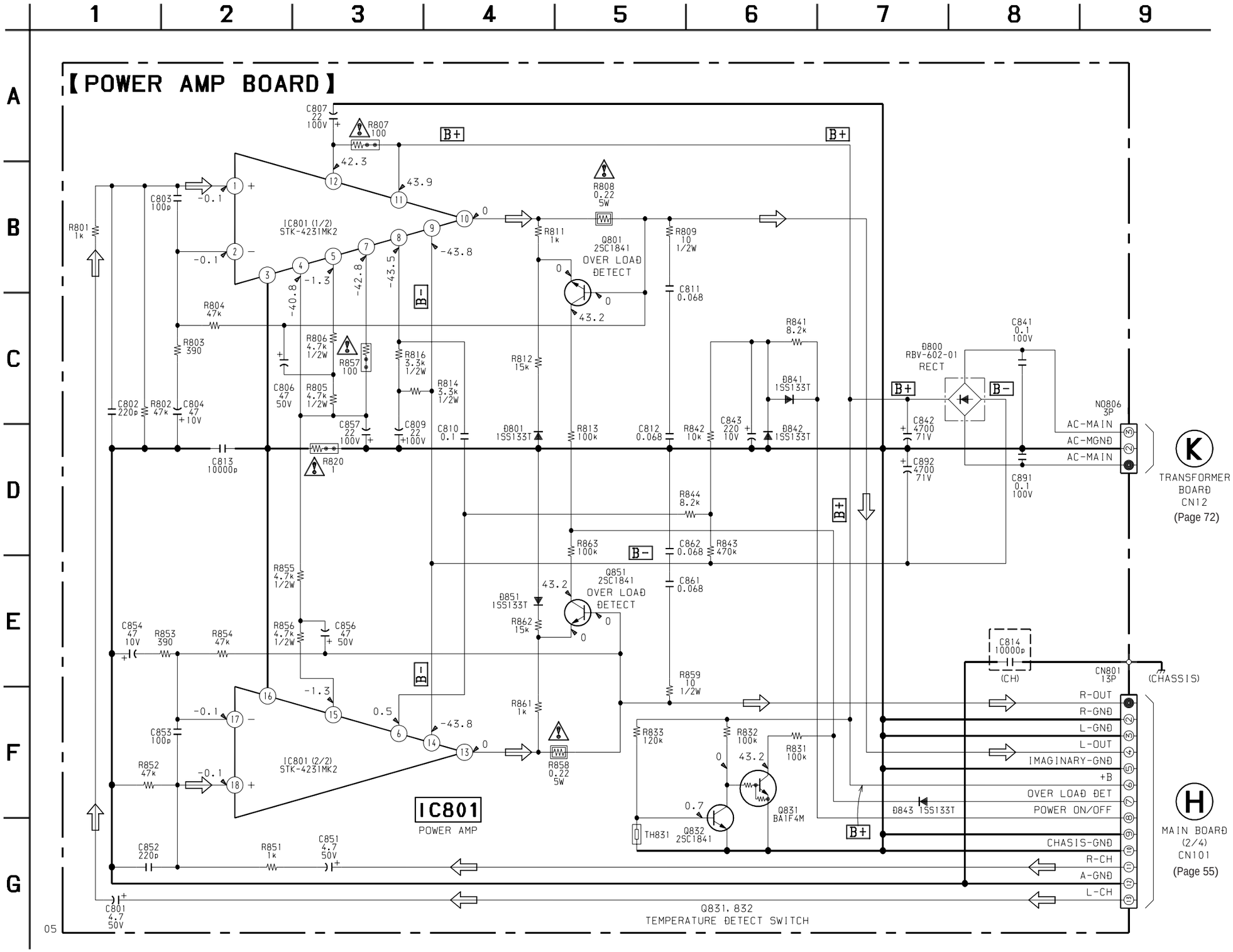
• See page 29 for Circuit Boards Location.




- **Semiconductor Location**

| Ref. No. | Location |
|---|---|
| D800 | D-1 |
| D801 | F-2 |
| D841 | F-2 |
| D842 | F-2 |
| D843 | C-2 |
| D851 | C-2 |
| IC801 | E-3 |
| Q801 | F-2 |
| Q831 | C-2 |
| Q832 | B-2 |
| Q851 | C-2 |

### 7-30. SCHEMATIC DIAGRAM – POWER AMP Section –

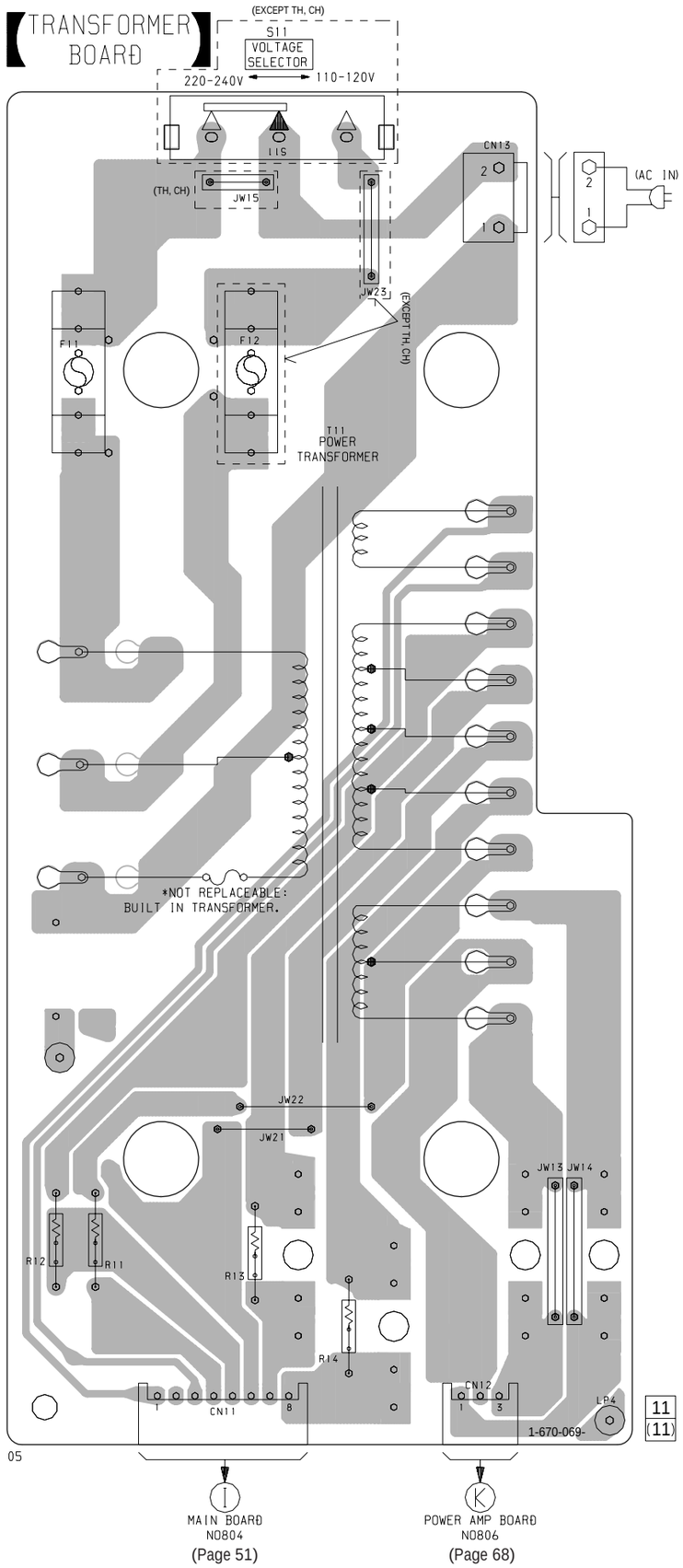



• Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
no mark : FM

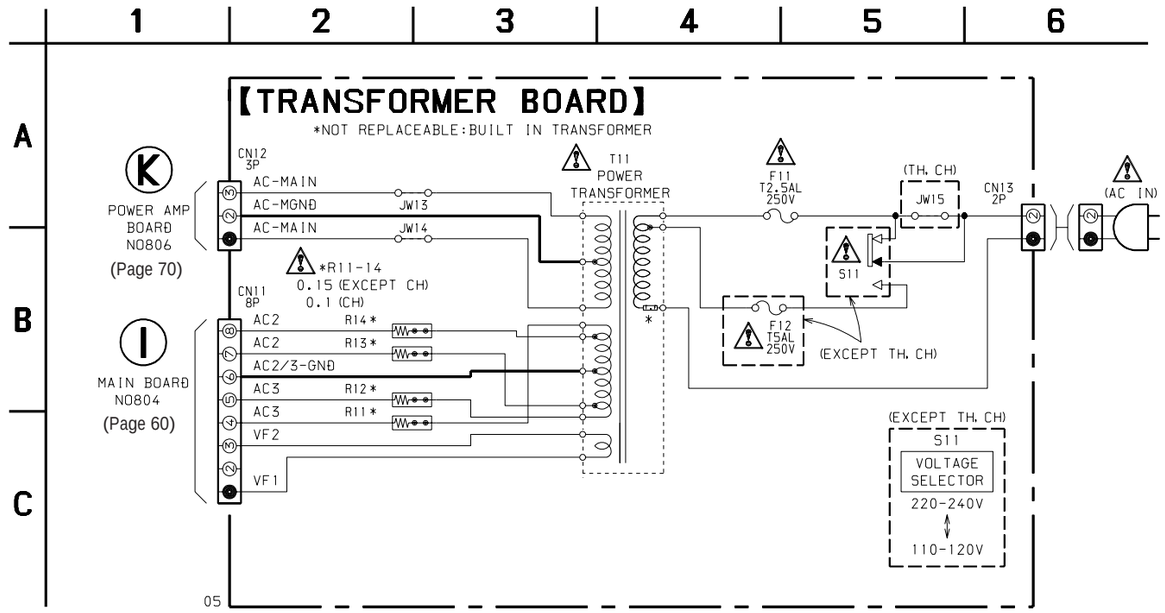
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

## 7-31. PRINTED WIRING BOARD – TRANSFORMER Section –

• See page 29 for Circuit Boards Location.




## 7-32. SCHEMATIC DIAGRAM – TRANSFORMER Section –

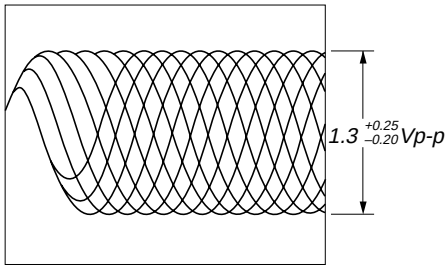



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

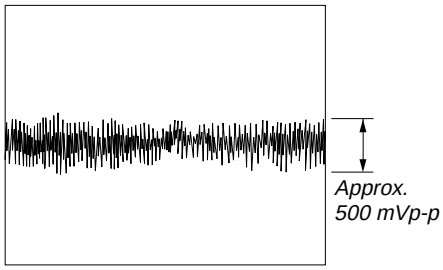
• **Waveforms**

**– BD Board –**

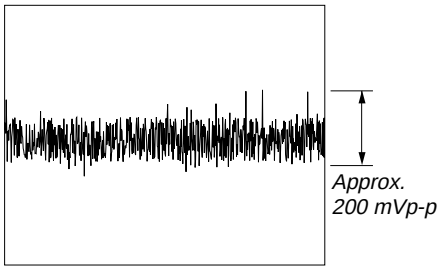
❶ IC101 ㉖ (RFDC) 200 mV/DIV, 500 ns/DIV



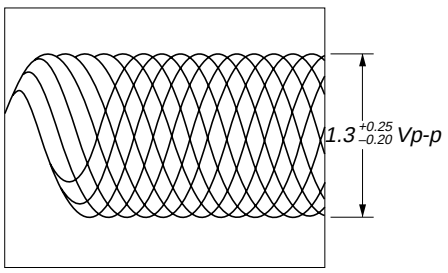

❷ IC101 ㉗ (TE) 200 mV/DIV, 100 µs/DIV



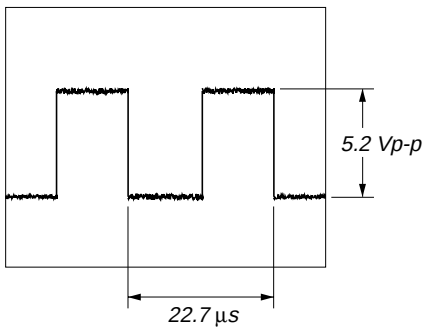

❸ IC101 ㉙ (FE) 200 mV/DIV, 50 ns/DIV



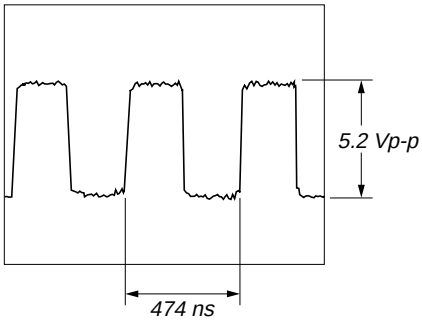

❹ IC101 ㊱ (RFAC) 200 mV/DIV, 500 ns/DIV



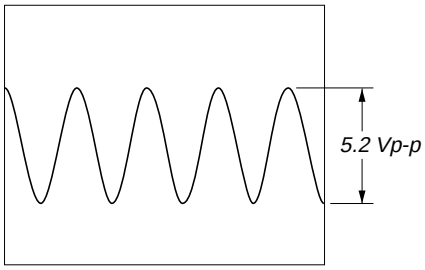

❺ IC101 ㊺ (LRCK)



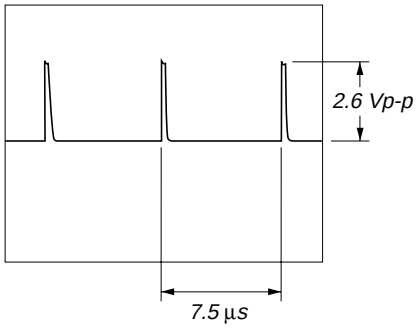

❻ IC101 ㊼ (BCLK)




❼ IC101 ㊷ (XTAI)

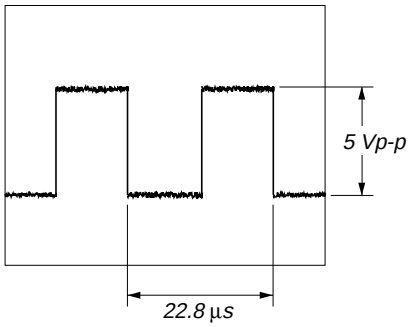



❽ IC101 ㊻ (MDP)

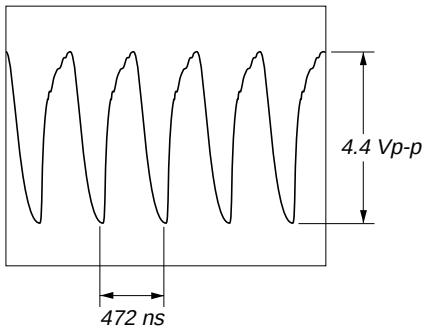



**– VIDEO Board –**

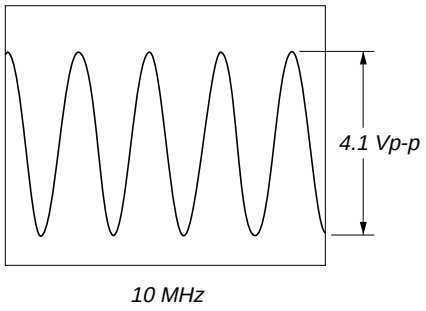
❶ IC501 ⑤ (LRCK)



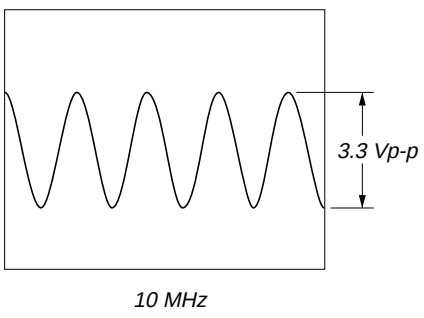

❷ IC501 ⑬ (BCLK)



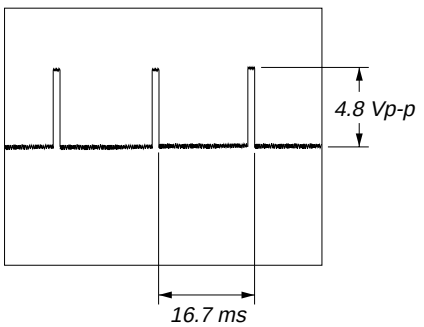

❸ IC502 ⑬ (XOUT)



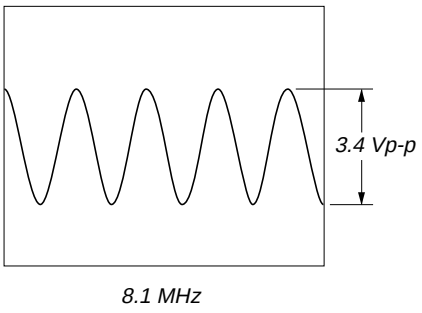

❹ IC502 ⑮ (XIN)



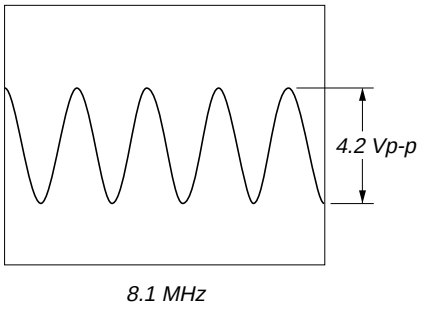

❺ IC502 ㊺ (BUS)



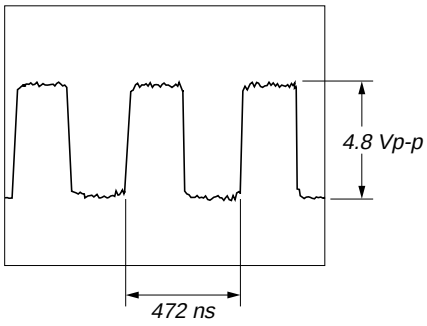
❻ IC402 ⑲ (XIN)



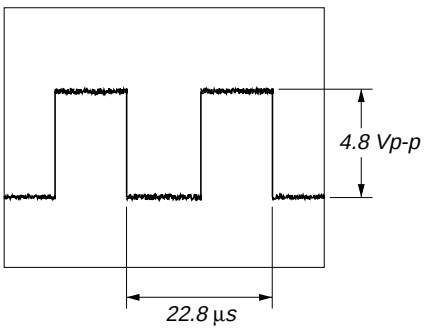

❼ IC402 ⑳ (XOUT)



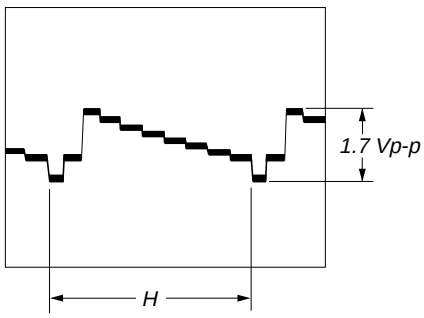

❽ IC505 ③ (CD-BCK)



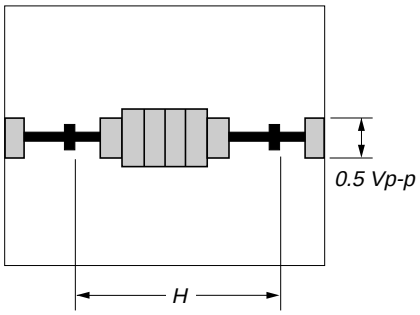

❾ IC505 ⑤ (CD-LRCK)



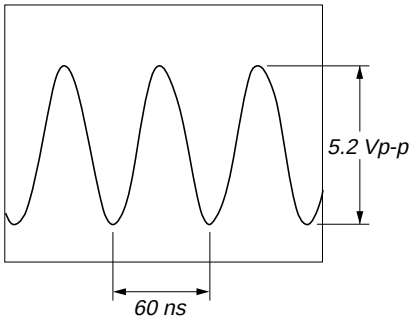

❿ IC505 ⑥⑨ (Y-OUT)



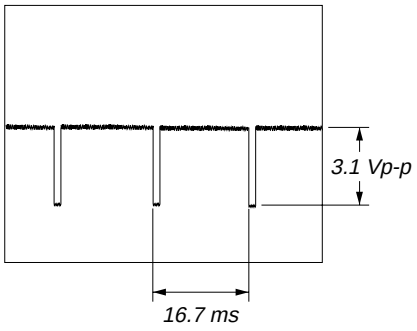

⓫ IC505 ⑦⑤ (C-OUT)



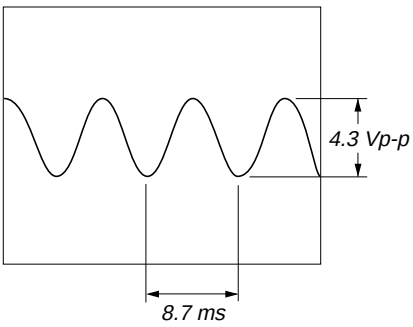

⓬ IC505 ⑧⑥ (DA-XCLK)



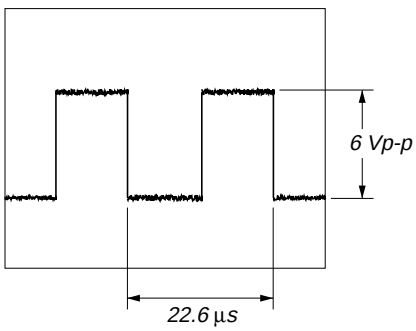

⓭ IC505 ⑨③ (PGIO2/VSYNK/CSYNK)



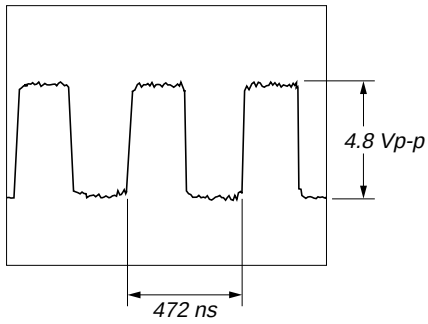

⓮ IC505 ⑩⑥ (VCK-IN)



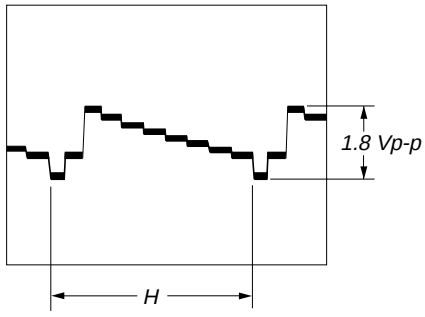

⓯ IC505 ⑩⑧ (DA-LRCK), IC509 ⑲ (LRCK)



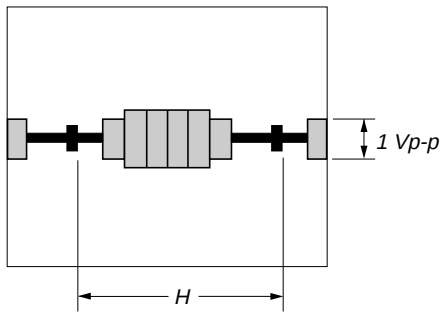

⓰ IC505 ⑪ (DA-BCK), IC509 ⑰ (BCK)



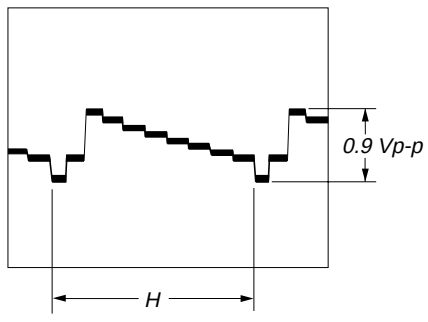

⓱ Q301 (Base)



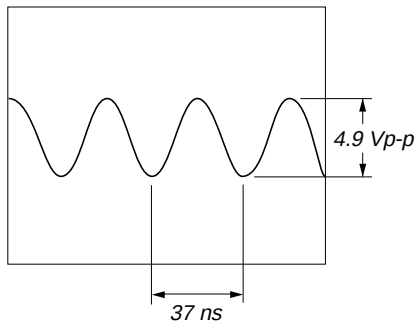

⓲ Q303, 304 (Base)




⓳ Q308 (Base)

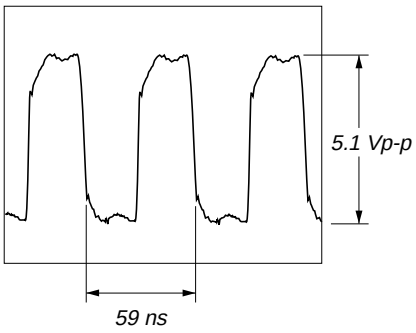



⓴ IC509 ④ (MCKO)

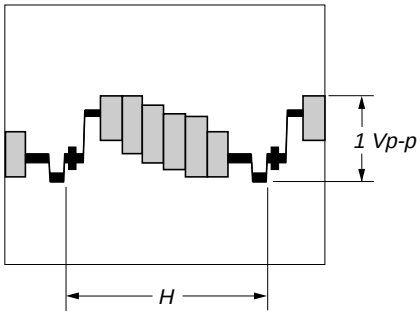


**– MAIN Board –**

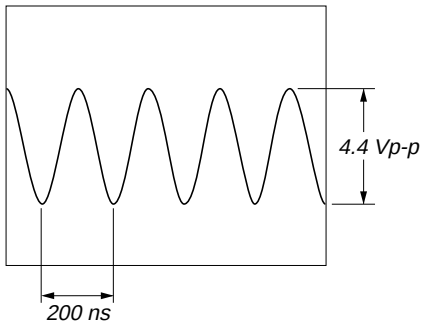
㉑ IC509 ⑳ (384FSO)



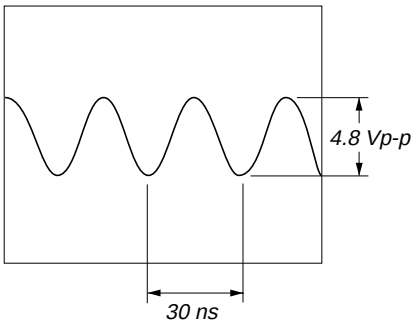

㉖ IC401 ⑤



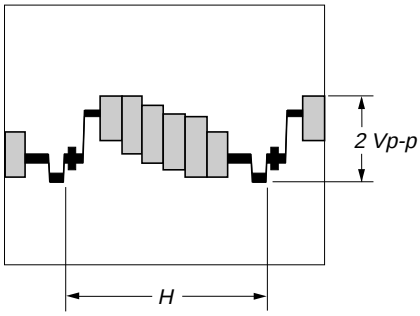

❶ IC501 ⑪ (X1)



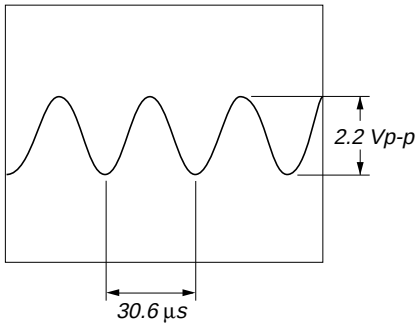

㉒ IC509 ㉑ (768FSO)



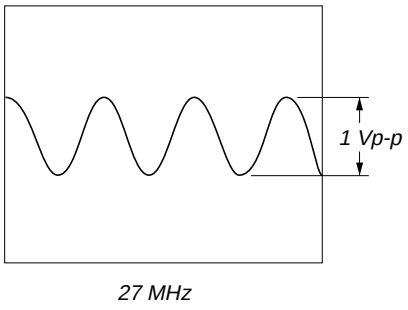

㉗ IC401 ⑦



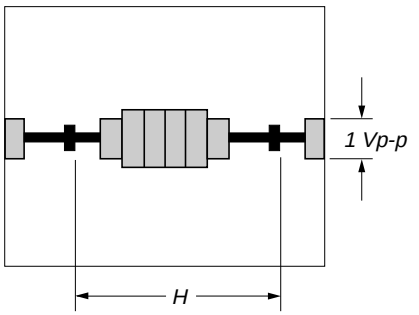

❷ IC501 ⑭ (XT1)




㉓ IC509 ㉔ (XT2)

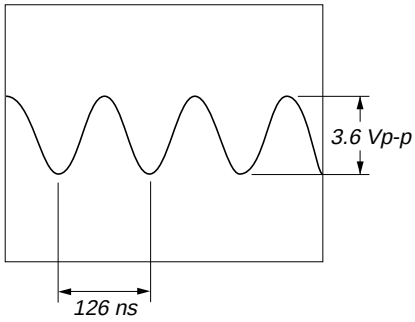



㉘ J301 ③ (COUT)

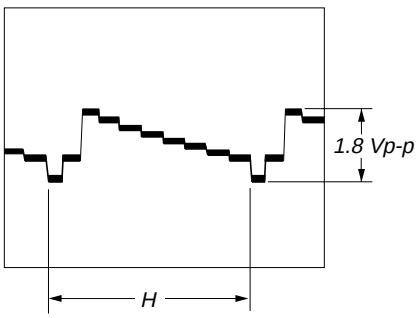



**– PANEL Board –**

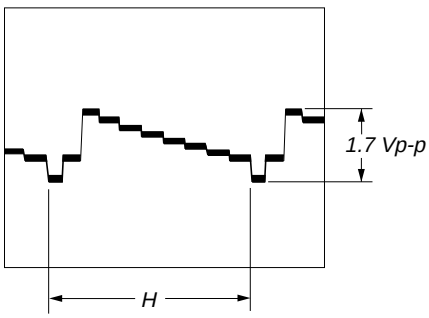
❶ IC601 ⑨ (X-IN)



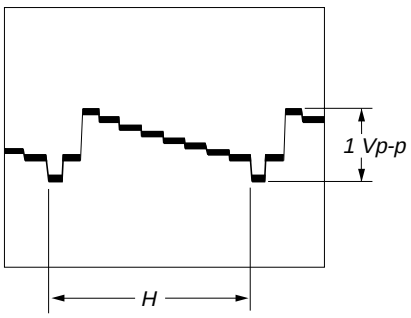

㉔ IC401 ①




㉙ J301 ④ (YOUT)



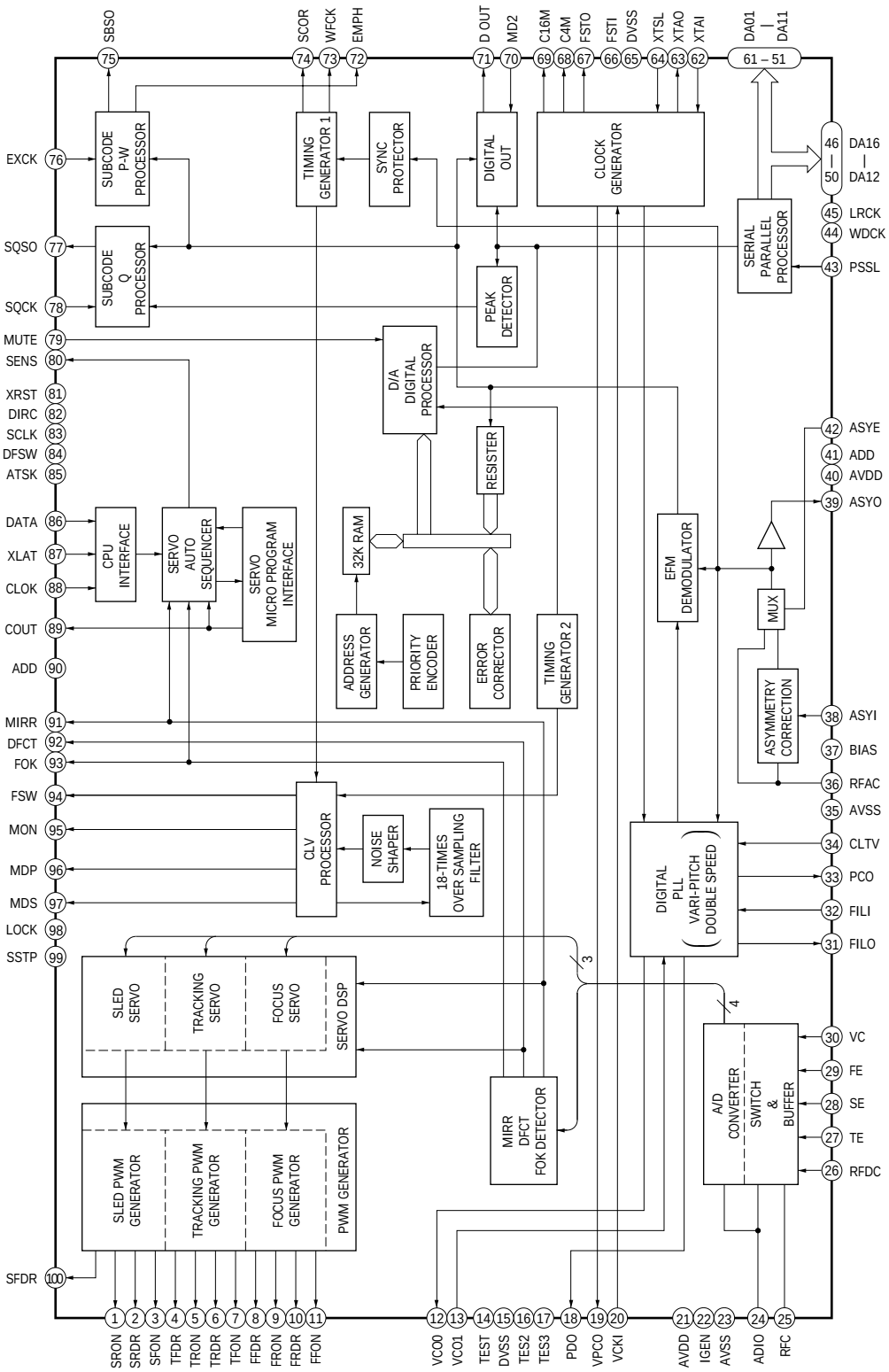

㉕ IC401 ③



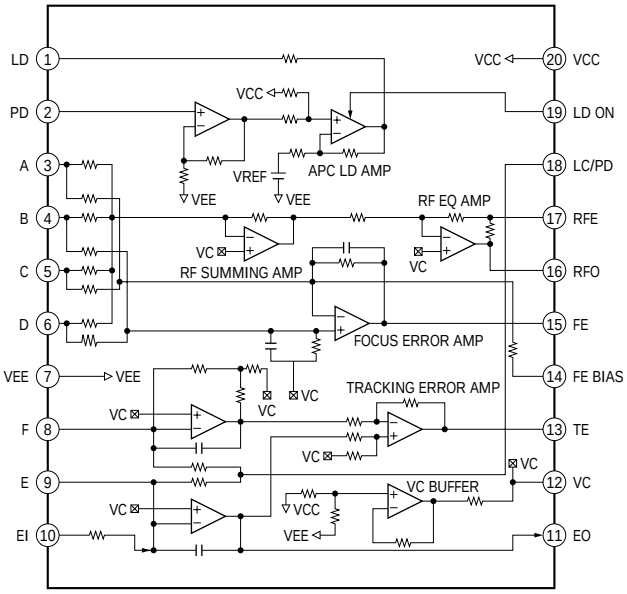
**• IC Block Diagrams**

**–BD Board –**

**IC101 CXD2545Q**

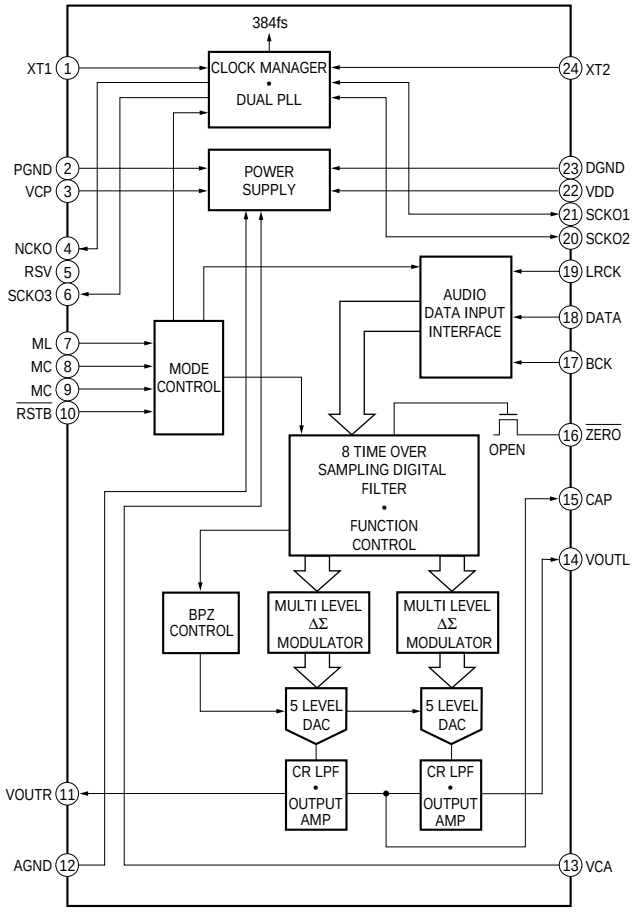


**IC103 CXA1821M-T6**



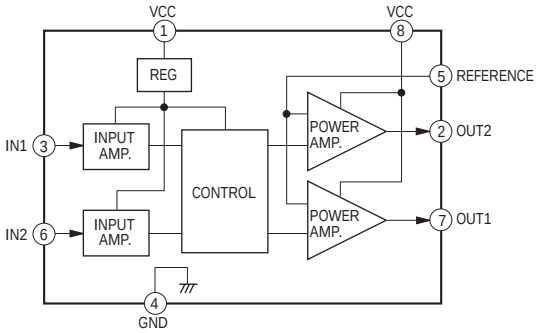

**–VIDEO Board –**

**IC509 PCM1727E-2/T2**



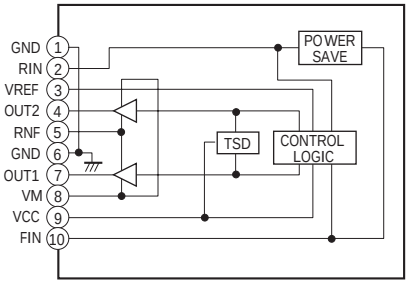
**– MOTOR (TURN) Board –**

**IC701 M54641L**



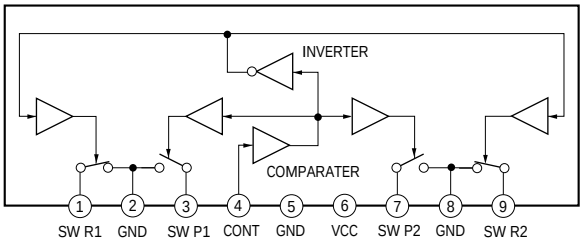

**– MOTOR (SLIDE) Board –**

**IC801 BA6286N**



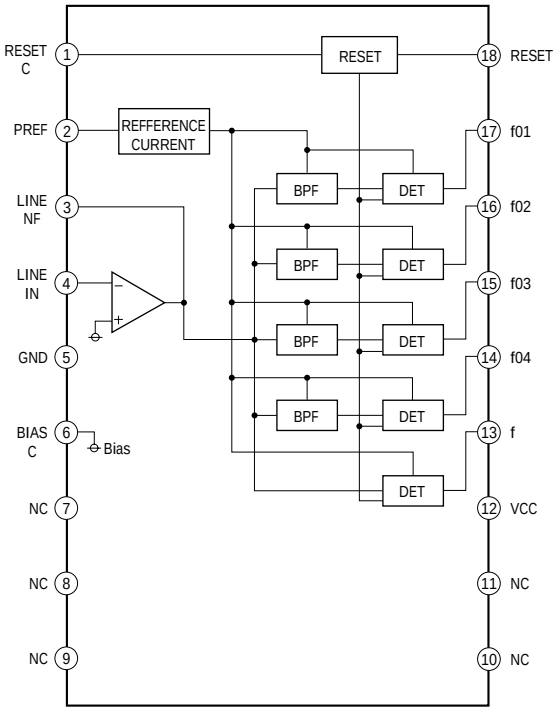

**– AUDIO Board –**

**IC602 µPC1330HA**

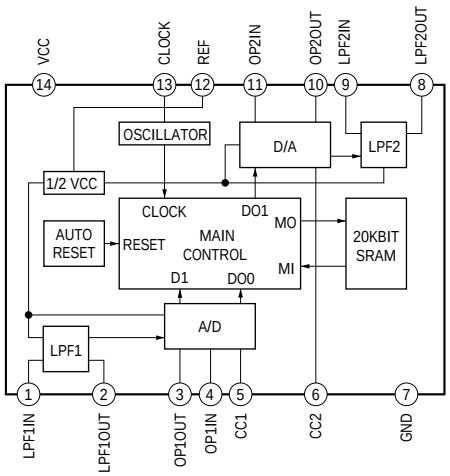



**– PANEL Board –**

**IC603 BA3833F-E2**




**IC751 M65850FP-E1**



## 7-33. IC PIN FUNCTION DESCRIPTION

### • MAIN BOARD IC501 μPD780016AYGF-014-3BA (SYSTEM CONTROLLER)

| Pin No. | Pin Name | I/O | Function |
|---|---|---|---|
| 1 | LINE-MUTE | O | Line muting on/off control signal output terminal "L": muting on |
| 2 | DBFB-H/L | O | DBFB normal/high selection signal output to the M62442FP (IC101)<br>"L": DBFB high, "H": DBFB low |
| 3 | M62442-LATCH | O | Serial data latch pulse output to the M62442FP (IC101) |
| 4 | KEYCON-LATCH | O | Serial data latch pulse output terminal Not used (open) |
| 5 | POWER | O | Power on/off control signal output for the audio system (+5V) and deck, panel, audio system (+7V) "L": power on, "H": standby |
| 6 | F-RELAY | O | Relay drive signal output for the speaker protect "H": on |
| 7 | R-RELAY | O | Relay drive signal output for the speaker protect "H": on Not used (open) |
| 8 | PL-RELAY | O | Relay drive signal output for the speaker protect "H": on Not used (open) |
| 9 | VPP | — | Ground terminal |
| 10 | X2 | O | Main system clock output terminal (5 MHz) |
| 11 | X1 | I | Main system clock input terminal (5 MHz) |
| 12 | VDD | — | Power supply terminal (+5V) |
| 13 | XT2 | O | Sub system clock output terminal (32.768 kHz) |
| 14 | XT1 | I | Sub system clock input terminal (32.768 kHz) |
| 15 | $\overline{\text{RESET}}$ | I | System reset signal input from the reset signal generator (IC502) "L": reset<br>For several hundreds msec. after the power supply rises, "L" is input, then it changes to "H" |
| 16 | $\overline{\text{AC-CUT}}$ | I | AC off detection signal input from the reset signal generator (IC502) |
| 17 | CAPM-CNT1P | O | Capstan motor (M1) drive signal output terminal |
| 18 | SCOR | I | Subcode sync (S0+S1) detection signal input terminal Not used (fixed at "L") |
| 19 | SOFT-TEST | O | Output terminal for the software test (open) |
| 20 | NCO | O | Not used (open) |
| 21 | RDS-INT | I | Serial data reading clock signal input terminal Not used (fixed at "L") |
| 22 | RDS-DATA | I | Serial data input terminal Not used (fixed at "L") |
| 23 | AVDD | — | Power supply terminal (+5V) (for A/D conversion) |
| 24 | AVREF | I | Reference voltage (+5V) input terminal (for A/D conversion) |
| 25 | ADJ | I | Setting terminal for the CD test mode Normally: fixed at "H" |
| 26 | A-SHUT | I | Shut off detection signal input from the deck-A side reel pulse detector (IC1001) |
| 27 | B-SHUT | I | Shut off detection signal input from the deck-B side reel pulse detector (IC1002) |
| 28 | B-HALF | I | Detection input from the deck-B half detect switch (S1006) |
| 29 | CLK-CHECK | I | Not used (fixed at "L") |
| 30 | SPEC-IN | I | Setting terminal for the version |
| 31 | AMS-IN | I | Automatic music sensor detection signal input from the HA12215F (IC301) |
| 32 | DEMO-CHANGE | I | Setting terminal for the demonstration H/L Fixed at "L" |
| 33 | AVSS | — | Ground terminal (for A/D conversion) |
| 34 | SQ-DATA-IN | I | Sub-code Q data input terminal Not used (fixed at "L") |
| 35 | NCO | O | Not used (open) |
| 36 | SQ-CLK<br>(D-OUT ON/OFF) | O | Sub-code Q data reading clock signal output terminal Not used (open) |
| 37 | SUPERWOOFER-<br>ON/OFF | O | Super woofer speaker on/off control signal output terminal Not used (open) |
| 38 | SUPERWOOFER<br>MODE | O | Super woofer speaker mode control signal output terminal Not used (open) |
| 39 | NIL | I | Not used (fixed at "L") |
| 40 | VSS | — | Ground terminal |
| 41 | DELAY-CONT | O | Serial data latch pulse output terminal Not used (open) |
| 42 | PL-LATCH | O | Serial data latch pulse output terminal Not used (open) |

| Pin No. | Pin Name | I/O | Function |
|---|---|---|---|
| 43 | COM-DIN | I | Serial data input terminal Not used (fixed at "L") |
| 44 | COM-DOUT | O | Serial data output terminal Not used (open) |
| 45 | COM-CLK | O | Serial data transfer clock signal output terminal Not used (open) |
| 46 | CD-POWER | O | Power on/off control signal output for the CD and video CD section<br>"H": power on, "L": standby |
| 47 | CD-DATA | O | Serial data output terminal Not used (open) |
| 48 | CD-CLK | O | Serial data transfer clock signal output terminal Not used (open) |
| 49 | PL-CLK | O | Serial data transfer clock signal output terminal Not used (open) |
| 50 | PL-DATA | O | Serial data output terminal Not used (open) |
| 51 | M62442-CLK | O | Serial data transfer clock signal output to the M62442FP (IC101) |
| 52 | M62442-DATA | O | Serial data output to the M62442FP (IC101) |
| 53 | LEVEL-CONT-A | O | Level control signal output terminal Not used (open) |
| 54 | LEVEL-CONT-B | O | Level control signal output terminal Not used (open) |
| 55 | IIC-DATA | I/O | Communication data bus with the CD mechanism controller (IC502) and fluorescent indicator tube driver (IC601) |
| 56 | IIC-CLK | I/O | Communication data reading clock signal input or transfer clock signal output with the CD mechanism controller (IC502) and fluorescent indicator tube driver (IC601) |
| 57 | $\overline{\text{XRST}}$ | O | Reset signal output to the CD mechanism controller (IC502) "L": reset |
| 58 | XLT | O | Serial data latch pulse output terminal Not used (open) |
| 59 | FOCUS-SW | O | Focus control signal output terminal Not used (open) |
| 60 | TBL-L | O | Motor drive signal output to the disc tray turn motor driver (IC701) *1 |
| 61 | TBL-R | O | Motor drive signal output to the disc tray turn motor driver (IC701) *1 |
| 62 | NCO | O | Not used (open) |
| 63 | LOAD-OUT | O | Motor drive signal output to the disc tray slide motor driver (IC801) *2 |
| 64 | LOAD-IN | O | Motor drive signal output to the disc tray slide motor driver (IC801) *2 |
| 65 | ST-CLK | O | PLL serial data transfer clock signal output to the FM/AM tuner unit |
| 66 | ST-DIN | I | PLL serial data input from the FM/AM tuner unit |
| 67 | ST-DOUT | O | PLL serial data output to the FM/AM tuner unit |
| 68 | ST-CE | O | PLL chip enable signal output to the FM/AM tuner unit |
| 69 | TUNED | I | Tuning detection signal input from the FM/AM tuner unit "L": tuned |
| 70 | STEREO | I | FM stereo detection signal input from the FM/AM tuner unit "L": stereo |
| 71 | VSS | — | Ground terminal |
| 72 | ST-MUTE | O | Tuner muting control signal output to the FM/AM tuner unit "L": muting on |
| 73 | SENS2 | I | Internal status (SENSE) signal input terminal Not used (fixed at "L") |
| 74 | SENS | I | Internal status (SENSE) signal input terminal Not used (fixed at "L") |
| 75 | DISC-SENS | I | Disc status detection signal input from the disc sensor (IC703) |
| 76 | TBL-SENS | I | Disc tray status detection signal input from the disc tray sensor (IC702) |

*1 Disc tray turn motor (M701) control

| Mode / Terminal | STOP | COUNTER-CLOCKWISE | CLOCKWISE | BRAKE |
|---|---|---|---|---|
| TBL-L (pin ⑥⓪) | "H" | "L" | "H" | "L" |
| TBL-R (pin ⑥①) | "H" | "H" | "L" | "L" |

*2 Disc tray slide motor (M801) control

| Mode / Terminal | STOP | TABLE IN | TABLE OUT | BRAKE |
|---|---|---|---|---|
| LOAD-OUT (pin ⑥③) | "H" | "H" | "L" | "L" |
| LOAD-IN (pin ⑥④) | "H" | "L" | "H" | "L" |

| Pin No. | Pin Name | I/O | Function |
|---|---|---|---|
| 77 | CAPM-CNT2P | O | Capstan motor drive signal output terminal Not used (open) |
| 78 | ENC3 | I | Detection signal input from the disc tray address detect rotary encoder (S811) |
| 79 | ENC2 | I | |
| 80 | ENC1 | I | |
| 81 | OUT-OPEN | I | Detection signal input from the disc tray open/close detect switch (S801)<br>“L”: open, “H”: close |
| 82 | CAP-M-H/L | O | High/normal speed selection signal output of the capstan motor (M1)<br>“L”: high speed, “H”: normal speed |
| 83 | B-TRG | O | Deck-B side trigger plunger (SL2) drive signal output terminal |
| 84 | A-TRG | O | Deck-A side trigger plunger (SL1) drive signal output terminal |
| 85 | CAPM-CNT1M | O | Capstan motor (M1) drive signal output terminal |
| 86 | CAPM-CNT2M | O | Capstan motor (M1) drive signal output terminal |
| 87 | TC-MUTE | O | Line muting on/off selection signal output to the HA12215F (IC301)<br>“L”: muting off, “H”: muting on |
| 88 | R/P-PASS | O | Recording/playback/pass selection signal output to the HA12215F (IC301)<br>“L”: recording mode |
| 89 | NR-ON/OFF | O | Dolby NR on/off selection signal output to the HA12215F (IC301)<br>“L”: dolby off, “H”: dolby on |
| 90 | REC-MUTE | O | Recording muting on/off selection signal output to the HA12215F (IC301)<br>“L”: muting on, “H”: muting off |
| 91 | CLK-OUT | O | Clock output for the check Not used (open) |
| 92 | BIAS | O | Recording bias on/off selection signal output to the HA12215F (IC301)<br>“L”: bias off, “H”: bias on |
| 93 | EQ-H/N | O | Normal/high speed selection signal output to the HA12215F (IC301)<br>“L”: normal speed, “H”: high speed |
| 94 | PB-A/B | O | Deck-A/B selection signal output to the HA12215F (IC301) “L”: deck-A, “H”: deck-B |
| 95 | A-PLAY-SW | I | Detection input from the deck- A play detect switch (S1001) “H”: deck-A play |
| 96 | B-PLAY-SW | I | Detection input from the deck- B play detect switch (S1002) “H”: deck-B play |
| 97 | TC-RELAY | O | Recording/playback select signal output to the REC/PB switch (IC602)<br>“L”: playback, “H”: recording |
| 98 | A-HALF | I | Detection input from the deck-A cassette detect switch (S1003)<br>“L”: cassette in, “H”: no cassette |
| 99 | ALC-ON/OFF | O | Automatic limiter control signal output to the HA12215F (IC301) “L”: limiter on |
| 100 | STK-MUTE | O | Power amplifier on/off selection signal output terminal “L”: on, “H”: standby |

• **VIDEO BOARD IC502 (CD MECHSNIAM CONTROLLER)**

| Former type | M30620MC-302FP |
|---|---|
| New type | M30620MC-305FP |

| Pin No. | Pin Name | I/O | Function |
|---|---|---|---|
| 1 | SENSE | I | Internal status (SENSE) signal input from the CXD2545Q (IC101) |
| 2 | SENSE CLK | O | Sense serial data reading clock signal output to the CXD2545Q (IC101) |
| 3 | DSP DATA | O | Serial data output to the CXD2545Q (IC101) |
| 4 | DSP LATCH | O | Serial data latch pulse output to the CXD2545Q (IC101) |
| 5 | DSP CLK | O | Serial data transfer clock signal output to the CXD2545Q (IC101) |
| 6 | TSENS | I | Disc tray status detection signal input terminal Not used (open) |
| 7 | REMOTE IN | I | Remote control signal input terminal Not used (open) |
| 8 | BYTE | I | External data bus line byte selection signal input "L": 16 bit, "H": 8 bit (fixed at "L") |
| 9 | VSS | — | Ground terminal |
| 10 | DSP MUTE | O | Muting on/off control signal output to the CXD2545Q (IC101) "H": muting on |
| 11 | CTRL1 | O | RF equalizer selection signal output terminal "L": double speed |
| 12 | $\overline{\text{XRESET}}$ | I | Reset signal input from the system controller (IC501) "L": reset<br>For several hundreds msec. after the power supply rises, "L" is input, then it changes to "H" |
| 13 | XOUT | O | Main system clock output terminal (10 MHz) |
| 14 | VSS | — | Ground terminal |
| 15 | XIN | I | Main system clock input terminal (10 MHz) |
| 16 | VCC | — | Power supply terminal (+5V) |
| 17 | NMI | I | Non-maskable interrupt input terminal (fixed at "H" in this set) |
| 18 | SCOR | I | Subcode sync (S0+S1) detection signal input from the CXD2545Q (IC101) |
| 19 | ITOU | I | Former type: UART communication data input from the expansion (IC402)<br>New type: Not used (open) |
| 20 | $\overline{\text{CL680 HINT}}$ | I | Interrupt request signal input from the MPEG video/audio decoder (IC505) |
| 21 | CL680 SEL | O | Command selection signal output to the MPEG video/audio decoder (IC505) |
| 22 | DF LATCH | O | Serial data latch pulse output to the D/A converter (IC509) "L" active |
| 23 | CL680 HRDY | I | Ready status detection signal input from the MPEG video/audio decoder (IC505) |
| 24 | $\overline{\text{CL680 RESET}}$ | O | Reset signal output to the MPEG video/audio decoder (IC505) "L": reset |
| 25 | JOG1 | I | Rotary encoder jog dial pulse input terminal Not used (fixed at "H") |
| 26 | JOG2 | I | Rotary encoder jog dial pulse input terminal Not used (fixed at "H") |
| 27 | CTRL2 | O | RF equalizer selection signal output terminal "H": double speed |
| 28 | LDON | O | Laser on/off selection signal output to the CXA1821M (IC103) "H": laser on |
| 29 | RXD | I | Former type: Communication data receive input from the expansion (IC402) |
| | CLK | I/O | New type: Communication data reading clock signal input or transfer clock signal output with the system controller (IC501) and fluorescent indicator tube driver (IC601) |
| 30 | TXD | O | Former type: Communication data transmit output to the expansion (IC402) |
| | DATA | I/O | New type: Communication data bus with the system controller (IC501) and fluorescent indicator tube driver (IC601) |
| 31 | DATA1O | O | Serial data output to the MPEG video/audio decoder (IC505) and D/A converter (IC509) |
| 32 | DATA1I | I | Serial data input from the MPEG video/audio decoder (IC505) |
| 33 | CLK1 | O | Serial data transfer clock signal output to the MPEG video/audio decoder (IC505) and D/A converter (IC509) |
| 34 | SHARPNESS | O | Sharpness control signal output of the video signal (Y signal) "H" active ("L": normal) |
| 35 | XVLEVEL. DOWN | O | Not used (open) |
| 36 | SUBQ DATA | I | Sub-code Q data input from the CXD2545Q (IC101) |
| 37 | SUBQ CLK | O | Sub-code Q data reading clock signal output to the CXD2545Q (IC101) |
| 38 | P.ON | O | Power on/off control signal output terminal Not used (open) |
| 39 | BUS XRDY | I | Ready signal input terminal Not used (fixed at "H") |

| Pin No. | Pin Name | I/O | Function |
|---|---|---|---|
| 40 | BUS | O | Not used (open) |
| 41 | BUS XHOLD | I | Hold signal input terminal Not used (fixed at “H”) |
| 42, 43 | BUS | O | Not used (open) |
| 44 | SHIMUKE | I | Destination setting terminal “L”: Chinese, “H”: English |
| 45 | BUS | I | Vertical synchronized signal input from the MPEG video/audio decoder (IC505) “L” active |
| 46 | BUS XWRL | O | Not used (open) |
| 47 | LO.BOOST | O | Low boost control signal output terminal Not used (open) |
| 48 | AUDIO MUTE | O | Audio muting on/off control signal output terminal “L”: muting on Not used (open) |
| 49 | LOAD OUT | O | Loading motor drive signal output terminal Not used (open) |
| 50 | LOAD IN | O | Loading motor drive signal output terminal Not used (open) |
| 51 | INSW | I | Disc detection (load in) switch input terminal Not used (fixed at “H”) |
| 52 | OUTSW | I | Disc detection (load out) switch input terminal Not used (fixed at “H”) |
| 53 | MODEL1 | I | Destination setting terminal (fixed at “L”) |
| 54 | MODEL2 | I | Destination setting terminal (fixed at “L”) |
| 55 | TBLL | O | Table motor drive signal output terminal Not used (open) |
| 56 | TBLR | O | Table motor drive signal output terminal Not used (open) |
| 57 to 59 | ENC1 to ENC3 | I | Disc tray address detection signal input terminal Not used (open) |
| 60, 61 | NCO | O | Not used (open) |
| 62 | VCC | — | Power supply terminal (+5V) |
| 63 | NCO | O | Not used (open) |
| 64 | VSS | — | Ground terminal |
| 65 | VMUTE | O | Video muting on/off control signal output terminal “L”: muting on |
| 66 to 71 | A6 to A1 | O | Address signal output for the external device Not used (open) |
| 72 | UTOI | O | Former type: UART communication data output to the expansion (IC402)<br>New type: Not used (open) |
| 73 | TEST LED | O | LED drive signal output for the self diagnosis indicator (D502) Normally: “L” (LED on) |
| 74 | TEST1 | I | Setting terminal for the test mode 1 (for VCD check)<br>Normally: fixed at “H” (“L”: test mode) |
| 75 | TEST2 | I | Setting terminal for the test mode 2 (for SERVO check)<br>Normally: fixed at “H” (“L”: test mode) |
| 76 | TEST3 | I | Setting terminal for the test mode 3 Normally: fixed at “H” (“L”: test mode)<br>Not used (fixed at “H”) |
| 77 | $\overline{\text{DEVICE RESET}}$ | O | System reset signal output to the CXD2545Q (IC101), BA6392FP (IC102) and D/A converter (IC509) “L”: reset |
| 78 | STANDBY | O | Standby on/off control signal output terminal Not used (open) |
| 79 | FL CS | O | Chip select signal output terminal Not used (open) |
| 80 | FLBLK | O | Blank control signal output terminal Not used (open) |
| 81 to 88 | D7 to D0 | I/O | Two-way data bus with the external device Not used (open) |
| 89 | MIC CTRL | O | Mic control signal output terminal Not used |
| 90 to 92 | KEY1 to KEY3 | I | Key input terminal Not used |
| 93 | NT/PAL | I | Video system select switch (S501) input terminal<br>“L”: PAL, “H”: NTSC, Center voltage: AUTO |
| 94 | MUSIC VOL | I | Volume input terminal Not used |
| 95 | KEY4 | I | Key input terminal Not used |
| 96 | AVSS | — | Ground terminal (for A/D conversion) |
| 97 | MODE. SW | I | Mode switch input terminal Not used |
| 98 | VREF | I | Reference voltage (+5V) input terminal (for A/D conversion) |
| 99 | AVCC | — | Power supply terminal (+5V) (for A/D conversion) |
| 100 | AMP. ON | O | Power amplifier on/off selection signal output terminal Not used (open) |

• **VIDEO BOARD IC505 CL680T-D1 (MPEG VIDEO/AUDIO DECODER, VIDEO SIGNAL PROCESSOR)**

| Pin No. | Pin Name | I/O | Function |
|---|---|---|---|
| 1 | NC | O | Not used (open) |
| 2 | VSS | — | Ground terminal |
| 3 | CD-BCK | I | CD decode bit clock signal (2.8224 MHz) input from the CXD2545Q (IC101) |
| 4 | CD-DATA | I | CD decode data input from the CXD2545Q (IC101) |
| 5 | CD-LRCK | I | CD decode L/R sampling clock signal (44.1 kHz) input from the CXD2545Q (IC101) |
| 6 | CD-C2PO | I | CD decode C2 error data input from the CXD2545Q (IC101) |
| 7 to 9 | NC | O | Not used (open) |
| 10 to 15 | MD0 to MD5 | I/O | Two-way data bus with the program ROM (IC506) and D-RAM (IC507) |
| 16 | VSS | — | Ground terminal |
| 17 | MD6 | I/O | Two-way data bus with the program ROM (IC506) and D-RAM (IC507) |
| 18 | VDD3 | — | Power supply terminal (+3.3V) |
| 19 | MD7 | I/O | Two-way data bus with the program ROM (IC506) and D-RAM (IC507) |
| 20 | VSS | — | Ground terminal |
| 21 | MD8 | I/O | Two-way data bus with the program ROM (IC506) and D-RAM (IC507) |
| 22 | VDD3 | — | Power supply terminal (+3.3V) |
| 23 to 28 | MD9 to MD14 | I/O | Two-way data bus with the program ROM (IC506) and D-RAM (IC507) |
| 29 | MD15 | I/O | Two-way data bus with the program ROM (IC506) |
| 30 to 36 | NC | O | Not used (open) |
| 37 | $\overline{\text{MCE}}$ | O | Chip enable signal output to the program ROM (IC506) |
| 38 | $\overline{\text{MWE}}$ | O | Write enable signal output to the D-RAM (IC507) |
| 39 | VSS | — | Ground terminal |
| 40 | $\overline{\text{CAS}}$ | O | Column address strobe signal output to the D-RAM (IC507) |
| 41 | VDD3 | — | Power supply terminal (+3.3V) |
| 42 | $\overline{\text{RAS0}}$ | O | Row address strobe signal output to the D-RAM (IC507) |
| 43 | $\overline{\text{RAS1}}$ | O | Row address strobe signal output terminal Not used (open) |
| 44, 45 | MA10, MA9 | O | Address signal output to the program ROM (IC506) |
| 46 | MA8 | O | Address signal output to the program ROM (IC506) and D-RAM (IC507) |
| 47 | VSS | — | Ground terminal |
| 48 | MA7 | O | Address signal output to the program ROM (IC506) and D-RAM (IC507) |
| 49 | VDD3 | — | Power supply terminal (+3.3V) |
| 50 to 52 | MA6 to MA4 | O | Address signal output to the program ROM (IC506) and D-RAM (IC507) |
| 53 | VSS | — | Ground terminal |
| 54 | MA3 | O | Address signal output to the program ROM (IC506) and D-RAM (IC507) |
| 55 | VDD3 | — | Power supply terminal (+3.3V) |
| 56 to 58 | MA2 to MA0 | O | Address signal output to the program ROM (IC506) and D-RAM (IC507) |
| 59 | PGIO7 | I/O | Not used (open) |
| 60 | $\overline{\text{RESET}}$ | I | Reset signal input from the CD mechanism controller (IC502) "L": reset |
| 61 | VDDMAX-IN | I | Fix the maximum input voltage each input terminal and in/out terminal |
| 62 to 64 | NC | O | Not used (open) |
| 65 | AGND-DAC | — | Ground terminal (for D/A converter) |
| 66 | AVDD-DAC | — | Power supply terminal (+3.3V) (for D/A converter) |
| 67 | COMPOS OUT | O | Composite video signal output terminal Not used (open) |
| 68 | AGND-DAC | — | Ground terminal (for D/A converter) |
| 69 | Y-OUT | O | Luminance video signal output terminal |
| 70 | AVDD-DAC | — | Power supply terminal (+3.3V) (for D/A converter) |
| 71 | AGND-DAC | — | Ground terminal (for D/A converter) |

| Pin No. | Pin Name | I/O | Function |
|---|---|---|---|
| 72 | RREF | I | Fix the video signal output level control |
| 73 | VREF | O | Reference voltage (+1.235V) output terminal |
| 74 | AVDD-DAC | — | Power supply terminal (+3.3V) (for D/A converter) |
| 75 | C-OUT | O | Chrominance video signal output terminal |
| 76 | AGND-DAC | — | Ground terminal (for D/A converter) |
| 77 | CLK-SEL0 | I | GCK (pin ⑮) selection terminal "L": external clock, "H": internal clock (fixed at "H") |
| 78 | CLK-SEL1 | I | DA-XCLK (pin ⑯) selection (1) terminal Fixed at "H" in this set |
| 79 | CLK-SEL2 | I | DA-XCLK (pin ⑯) selection (2) terminal Fixed at "H" in this set |
| 80 | VSS | — | Ground terminal |
| 81 | RESERVED | I | Selection the operation clock 42.336 MHz (fixed at "L") |
| 82 | VDD3 | — | Power supply terminal (+3.3V) |
| 83 | DA-EMP | O | Not used (open) |
| 84 | RESERVED | O | Not used (open) |
| 85 | AGND-PLL | — | Ground terminal (for PLL system) |
| 86 | DA-XCLK | I | Main reference clock signal (16.9344 MHz=384fs) from the D/A converter (IC509) |
| 87 | AVDD-PLL | — | Power supply terminal (+3.3V) (for PLL system) |
| 88 | PGIO4 | I/O | Not used (open) |
| 89 | PGIO5 | I/O | Not used (open) |
| 90 | PGIO6 | I/O | Not used (open) |
| 91 | PGIO0 | I/O | Not used (open) |
| 92 | PGIO8 | I/O | Not used (open) |
| 93 | PGIO2/$\overline{\text{VSYNC}}$/CSYNC | O | Vertical synchronized signal output to the CD mechanism controller (IC502) |
| 94 | AVDD-PLL | — | Power supply terminal (+3.3V) (for PLL system) |
| 95 to 97 | NC | O | Not used (open) |
| 98 | AGND-PLL | — | Ground terminal (for PLL system) |
| 99 | VSS | — | Ground terminal |
| 100 | NC | O | Not used (open) |
| 101 | PGIO3/$\overline{\text{HSYNC}}$ | I/O | Not used (open) |
| 102 | VDD3 | — | Power supply terminal (+3.3V) |
| 103 | PGIO1/VCK-OUT | I/O | Not used (open) |
| 104 | VSS | — | Ground terminal |
| 105 | GCK | I | Not used (open) |
| 106 | VCK-IN | I | Main clock for video signal processor input from the D/A converter (IC509) |
| 107 | GCKOUT/DA-EMP | O | Not used (open) |
| 108 | DA-LRCK | O | Digital audio L/R sampling clock signal (44.1 kHz) output to the D/A converter (IC509) |
| 109 | VDDMAX-OUT | O | Fix the maximum output voltage (+5V) certain output terminal |
| 110 | DA-DATA | O | Digital audio data output to the D/A converter (IC509) |
| 111 | DA-BCK | O | Digital audio bit clock signal (2.8224 MHz) output to the D/A converter (IC509) |
| 112 | HD-OUT | O | Serial data output to the CD mechanism controller (IC502) |
| 113 | HRDY | O | Ready signal output to the CD mechanism controller (IC502) |
| 114 | $\overline{\text{HINT}}$ | O | Interrupt request signal output to the CD mechanism controller (IC502) |
| 115 | CDG-SCK | I/O | Not used (open) |
| 116 | VSS | — | Ground terminal |
| 117 | HCK | I | Serial data transfer clock signal input from the CD mechanism controller (IC502) |
| 118 | VDD3 | — | Power supply terminal (+3.3V) |
| 119 | HD-IN | I | Serial data input from the CD mechanism controller (IC502) |

| Pin No. | Pin Name | I/O | Function |
|---|---|---|---|
| 120 | VDD3 | — | Power supply terminal (+3.3V) |
| 121 | HSEL | I | Command selection signal input from the CD mechanism controller (IC502) |
| 122 | CDG-SDATA | I | Not used (fixed at “L”) |
| 123 | CDG-VFSY | I | Not used (fixed at “L”) |
| 124 | CDG-S0S1 | I | Not used (fixed at “L”) |
| 125 to 128 | NC | O | Not used (open) |

• **PANEL BOARD IC601 TMP87CM74AF-6731**

**(FLUORESCENT INDICATOR TUBE DRIVE, LED DRIVE, KEY CONTROL)**

| Pin No. | Pin Name | I/O | Function |
|---|---|---|---|
| 1 | LED3 | O | LED drive signal output terminal Not used (open) |
| 2 | LED4 | O | LED drive signal output terminal Not used (open) |
| 3 | LED5 | O | LED drive signal output terminal (DISC 3) |
| 4 | LED6 | O | LED drive signal output terminal (DISC 2) |
| 5 | LED7 | O | LED drive signal output terminal (DISC 1) |
| 6 | LED8 | O | LED drive signal output terminal (ENTER/NEXT, GROOVE) |
| 7 | VSS | — | Ground terminal |
| 8 | X-OUT | O | System clock output terminal (8 MHz) |
| 9 | X-IN | I | System clock input terminal (8 MHz) |
| 10 | $\overline{\text{RESET}}$ | I | System reset signal input from the reset signal generator (IC502) "L": reset<br>For several hundreds msec. after the power supply rises, "L" is input, then it changes to "H" |
| 11 | LED9 | O | LED drive signal output terminal (JOG, DJ MIX) |
| 12 | LED10 | O | LED drive signal output terminal (CD NON-STOP, + ▶▶, – ◀◀) |
| 13 | TEST | I | Connected to ground |
| 14 | LED11 | O | LED drive signal output terminal Not used (open) |
| 15 | LED12 | O | LED drive signal output terminal (EFFECT, VIDEO CD) |
| 16 | LED13 | O | LED drive signal output terminal (CD ▶ ❚❚) |
| 17 | LED14 | O | LED drive signal output terminal (TAPE B ▶/◀) |
| 18 | LED15 | O | LED drive signal output terminal (TAPE A ▶/◀) |
| 19 | VOL-A | I | Rotary encoder pulse input from the S602 (VOLUME) |
| 20 | VOL-B | I | Rotary encoder pulse input from the S602 (VOLUME) |
| 21 | JOG-A | I | Jog dial pulse input from the S601 (⏮ ↔ ⏭ DJ MIX) |
| 22 | JOG-B | I | Jog dial pulse input from the S601 (⏮ ↔ ⏭ DJ MIX) |
| 23 | SCL | I/O | Communication data reading clock signal input or transfer clock signal output with the system controller (IC501) and CD mechanism controller (IC502) |
| 24 | SDA | I/O | Communication data bus with the system controller (IC501) and CD mechanism controller (IC502) |
| 25 | L.SEL | O | LED selection signal output terminal |
| 26 | KEY-0 | I | Key input terminal (A/D input) (S604 to 617)<br>EFFECT, SURROUND, KARAOKE PON/MPX, ■, TIMER SELECT, CLOCK/TIMER SET, DISPLAY/DEMO, FILE SELECT, GEQ CONTROL, P.FILE MEMORY, FUNCTION, REPEAT STEREO/MONO, EDIT DIRECTION, PLAY MODE DOLBY NR TUNER MEMORY keys input |
| 27 | KEY-1 | I | Key input terminal (A/D input) (S619 to 630)<br>CD FLASH, CD NON-STOP, – ◀◀, ENTER/NEXT, + ▶▶ , DBFB, GROOVE, ACTIVE, SELECT, RETURN, PREV, NEXT keys input |
| 28 | KEY-2 | I | Key input terminal (A/D input) (S631 to 642)<br>TUNER BAND, CD ▶ ❚❚, TAPE B ▶/◀, TAPE A ▶/◀, I/⏻ (POWER), DISC 1/2/3, DISC SKIP/EX-CHANGE, ⏏ keys input |
| 29 | KEY-3 | I | Key input terminal (A/D input) (S618, 656 to 659)<br>CD LOOP, ● REC, ❚❚ PAUSE, HI-DUB, CD SYNC, keys input |
| 30 | MODEL | I | Destination setting terminal |
| 31 | SPEANA RESET | O | Reset signal output terminal "H": reset Not used (open) |
| 32 | L+R | I | Spectrum analyzer drive signal input from the spectrum analyzer band-pass filter (IC603) (for VACS, non-stop signal) |
| 33 | SIRCS | I | Remote control signal input from the remote control receiver (IC602) |

| Pin No. | Pin Name | I/O | Function |
|---|---|---|---|
| 34 | SPEANA-1 | I | Spectrum analyzer drive signal input from the spectrum analyzer band-pass filter (IC603) (for low frequency) |
| 35 | SPEANA-2 | I | Spectrum analyzer drive signal input from the spectrum analyzer band-pass filter (IC603) (for low and middle frequency) |
| 36 | SPEANA-3 | I | Spectrum analyzer drive signal input from the spectrum analyzer band-pass filter (IC603) (for middle and high frequency) |
| 37 | SPEANA-4 | I | Spectrum analyzer drive signal input from the spectrum analyzer band-pass filter (IC603) (for high frequency) |
| 38 | VASS | — | Ground terminal (for A/D conversion) |
| 39 | VAREF | I | Reference voltage (+5V) input terminal (for A/D conversion) |
| 40 | VDD | — | Power supply terminal (+5V) |
| 41 to 53 | GR1 to GR13 | O | Grid drive signal output to the fluorescent indicator tube (FL601) |
| 54 to 69 | SEG1 to SEG16 | O | Segment drive signal output to the fluorescent indicator tube (FL601) |
| 70 to 72 | SEG19 to SEG17 | O | Segment drive signal output to the fluorescent indicator tube (FL601) |
| 73 to 77 | SEG24 to SEG20 | O | Segment drive signal output to the fluorescent indicator tube (FL601) |
| 78 | VKK | — | Power supply terminal (–30V) (for fluorescent indicator tube drive) |
| 79 | LED1 | O | LED drive signal output terminal (● REC, ❚❚ PAUSE) |
| 80 | LED2 | O | LED drive signal output terminal (ACTIVE ON/OFF) |

# SECTION 8
# EXPLODED VIEWS

NOTE:

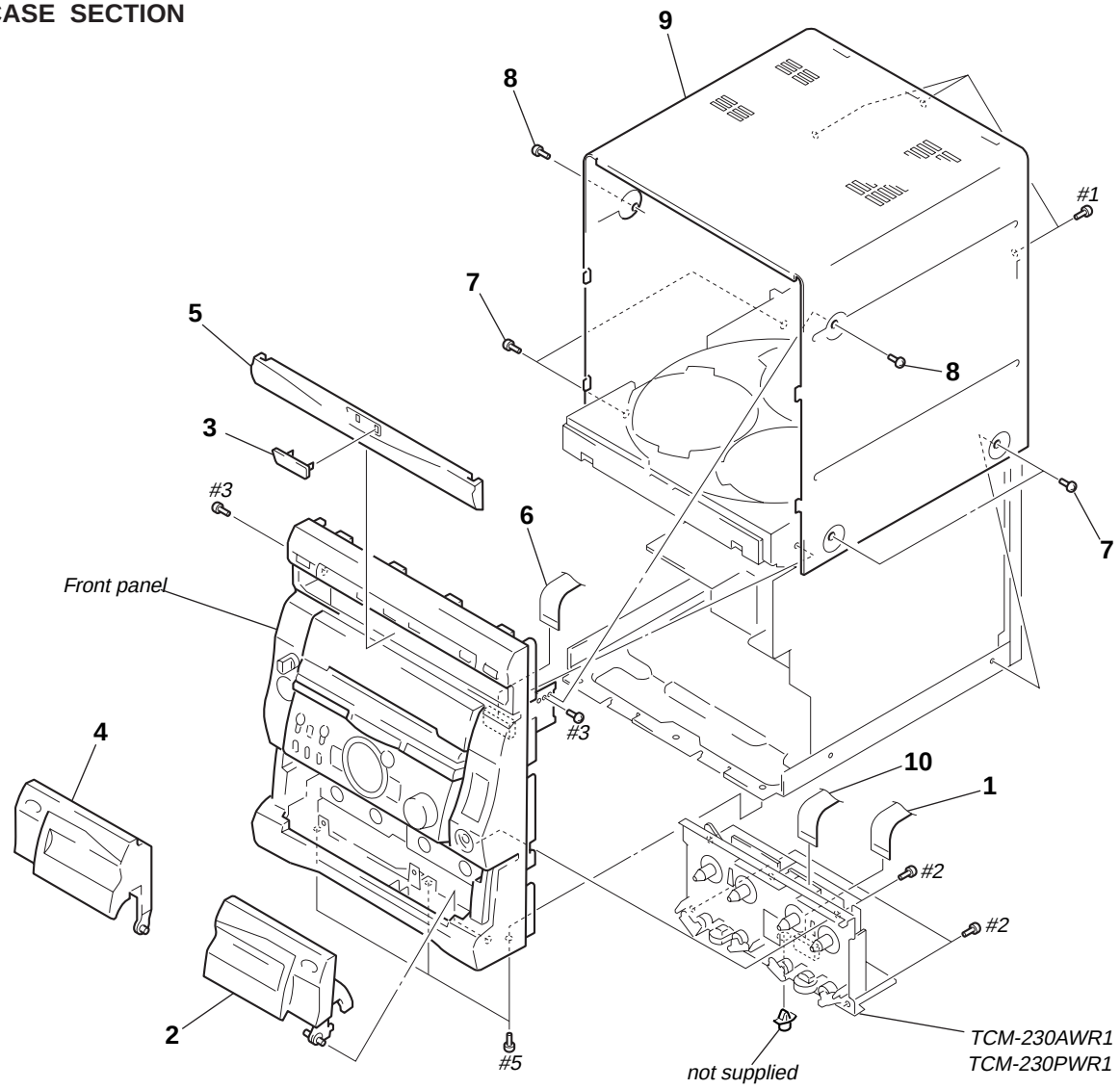
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Abbreviation

| | | | |
|---|---|---|---|
| CH | : Chinese | MY | : Malaysia |
| EA | : Saudi Arabia | SP | : Singapore |
| HK | : Hong Kong | TH | : Thai |
| IA | : Indonesia | TW | : Taiwan |
| JE | : Tourist | | |

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list is given in the last of the electrical parts list.

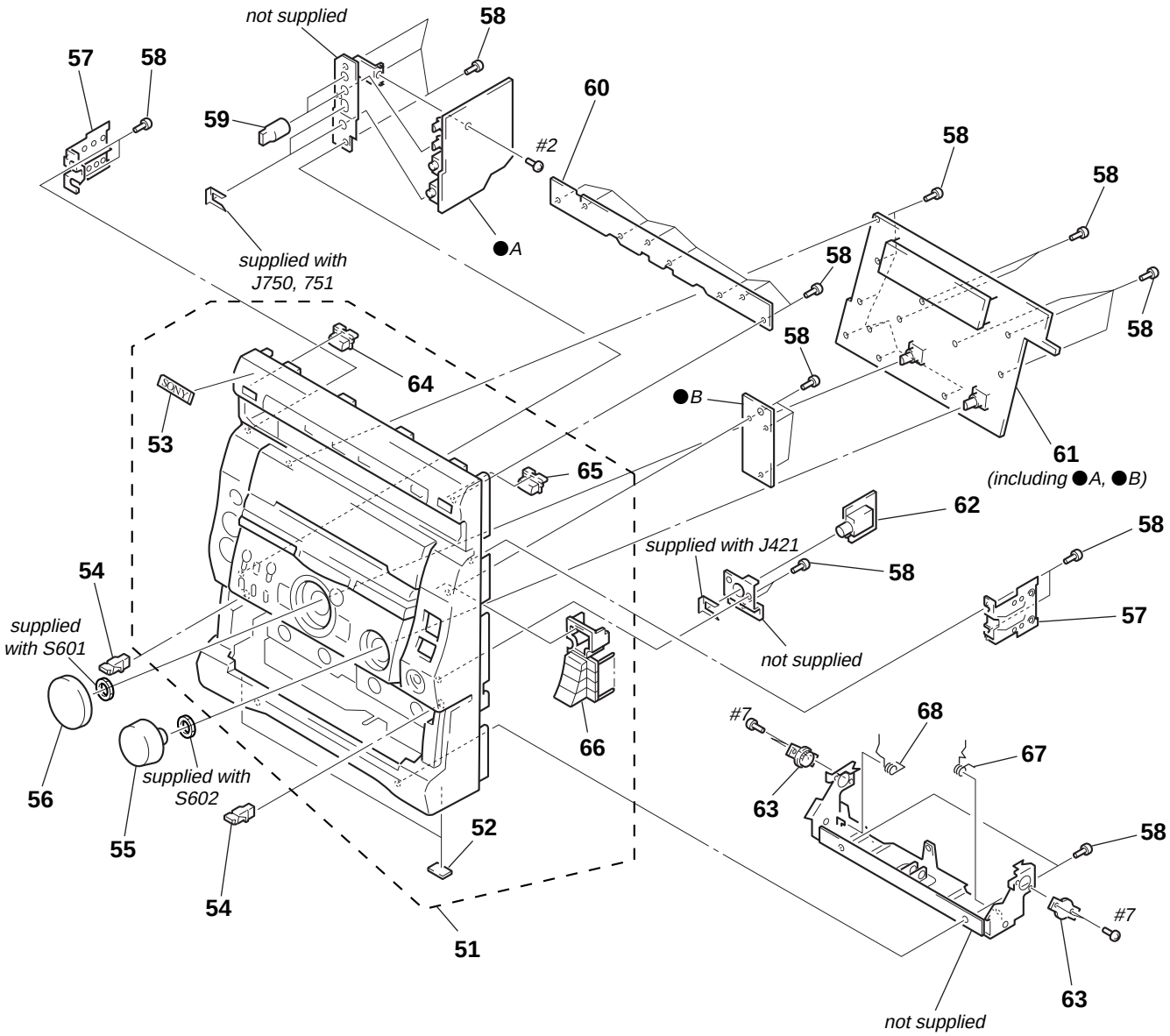
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

## (1) CASE SECTION



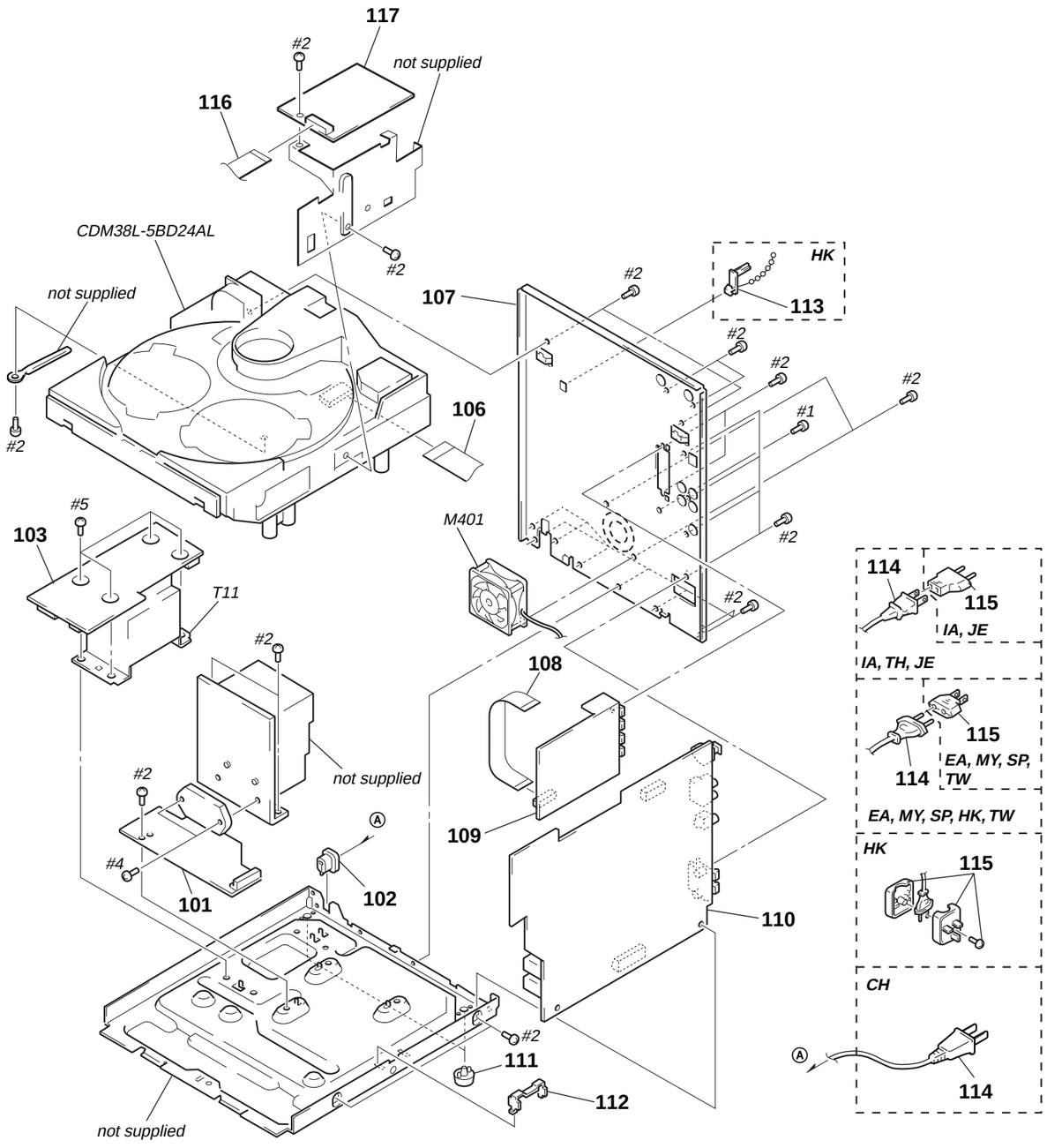

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 1 | 1-773-025-11 | WIRE (FLAT TYPE) (15 CORE) (33cm) | |
| 2 | X-4949-350-1 | LID (R) ASSY, CASSETTE | |
| 3 | 4-991-781-01 | EMBLEM (VCD) | |
| 4 | X-4949-349-1 | LID (L) ASSY, CASSETTE | |
| 5 | 4-900-739-11 | PANEL, LOADING | |
| 6 | 1-769-984-11 | WIRE (FLAT TYPE) (13 CORE) (23cm) | |
| 7 | 3-363-099-11 | SCREW (CASE 3 TP2) (3X8) | |
| 8 | 3-363-099-71 | SCREW (CASE 3 TP2) (3X12) | |
| * 9 | 4-996-728-01 | CASE (EXCEPT IA) | |
| * 9 | 4-996-728-21 | CASE (IA) | |
| 10 | 1-773-048-11 | WIRE (FLAT TYPE) (17 CORE) | |

## (2) FRONT PANEL SECTION




| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 51 | X-4949-981-1 | PANEL ASSY, FRONT | |
| 52 | 4-930-336-61 | FOOT (FELT) | |
| 53 | 4-962-708-11 | EMBLEM (4-A), SONY | |
| 54 | 4-995-081-01 | LATCH, DC | |
| 55 | 4-996-722-01 | KNOB (VOL) | |
| 56 | 4-996-721-01 | KNOB (JOG-U4) | |
| * 57 | 4-996-716-01 | HOLDER (CDM) | |
| 58 | 4-951-620-01 | SCREW (2.6X8), +BVTP | |
| 59 | 4-986-893-51 | KNOB (MICROPHONE) | |
| * 60 | 1-670-067-11 | CD-SW BOARD | |
| * 61 | A-4414-025-A | PANEL BOARD, COMPLETE | |
| * 62 | 1-670-070-11 | HP BOARD | |
| * 63 | 3-973-975-21 | DAMPER, OIL | |
| 64 | 4-996-704-01 | BUTTON (POWER) ( I /⏻) | |
| 65 | 4-997-070-01 | BUTTON (OPEN/CLOSE) (⏏) | |
| 66 | X-4949-348-1 | BUTTON (REC) ASSY (● REC, ❚❚ PAUSE, HI-DUB, CD SYNC) | |
| 67 | 4-996-733-01 | SPRING (B DECK) | |
| 68 | 4-996-732-01 | SPRING (A DECK) | |

## (3) CHASSIS SECTION

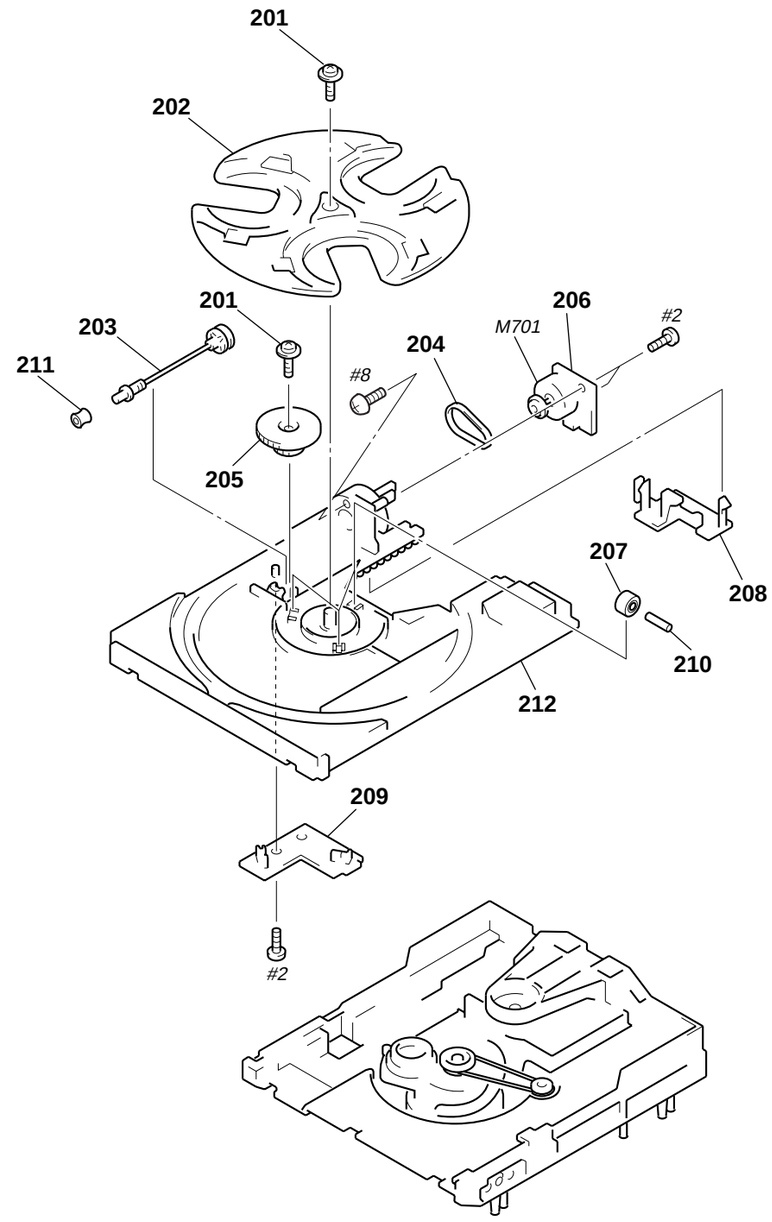



| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| * 101 | A-4414-022-A | POWER AMP BOARD, COMPLETE (EXCEPT CH) | |
| * 101 | A-4414-875-A | POWER AMP BOARD, COMPLETE (CH) | |
| * 102 | 3-703-244-00 | BUSHING (2104), CORD (EXCEPT IA, TH, JE) | |
| 102 | 3-703-571-11 | BUSHING (S) (4516), CORD (TH, JE) | |
| 102 | 4-966-266-01 | BUSHING (S) (FBS002), CORD (IA) | |
| * 103 | 1-670-069-11 | TRANSFORMER BOARD | |
| 106 | 1-775-212-11 | WIRE (FLAT TYPE) (23 CORE) | |
| * 107 | 4-900-721-01 | PANEL, BACK (MY, SP) | |
| * 107 | 4-900-721-11 | PANEL, BACK (JE) | |
| * 107 | 4-900-721-21 | PANEL, BACK (CH) | |
| * 107 | 4-900-721-31 | PANEL, BACK (HK) | |
| * 107 | 4-900-721-41 | PANEL, BACK (TW) | |
| * 107 | 4-900-721-51 | PANEL, BACK (IA) | |
| * 107 | 4-900-721-61 | PANEL, BACK (TH) | |
| * 107 | 4-900-721-81 | PANEL, BACK (EA) | |
| 108 | 1-773-008-11 | WIRE (FLAT TYPE) (15 CORE) (14cm) | |
| 109 | 1-233-545-11 | ENCAPSULATED COMPONENT (TH) | |
| 109 | 1-693-381-11 | TUNER (FM/AM) (CH) | |
| 109 | 1-693-421-11 | TUNER (FM/AM) (EXCEPT TH, CH) | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| * 110 | A-4414-019-A | MAIN BOARD, COMPLETE (EXCEPT TH, CH) | |
| * 110 | A-4414-486-A | MAIN BOARD, COMPLETE (TH) | |
| * 110 | A-4414-869-A | MAIN BOARD, COMPLETE (CH) | |
| 111 | 4-965-822-01 | FOOT | |
| * 112 | 4-988-533-01 | HOLDER, PWB | |
| 113 | 4-956-370-12 | BAND, PLUG FIXED (HK) | |
| ⚠114 | 1-575-651-11 | CORD, POWER (EA, MY, SP, HK, TW) | |
| ⚠114 | 1-575-653-11 | CORD, POWER (IA, TH, JE) | |
| ⚠114 | 1-782-464-21 | CORD, POWER (CH) | |
| ⚠115 | 1-569-007-11 | ADAPTOR, CONVERSION 2P (IA, JE) | |
| ⚠115 | 1-569-008-21 | ADAPTOR, CONVERSION 2P (EA, MY, SP, TW) | |
| ⚠115 | 1-770-019-11 | ADAPTOR, CONVERSION PLUG 3P (HK) | |
| 116 | 1-751-688-11 | WIRE (FLAT TYPE) (13 CORE) (17cm) | |
| * 117 | A-4414-186-A | VIDEO BOARD, COMPLETE (EXCEPT CH) | |
| * 117 | A-4724-279-A | VIDEO BOARD, COMPLETE (CH) | |
| M401 | 1-763-048-21 | FAN, D.C. | |
| ⚠T11 | 1-431-829-11 | TRANSFORMER, POWER (EXCEPT CH) | |
| ⚠T11 | 1-433-439-11 | TRANSFORMER, POWER (CH) | |

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

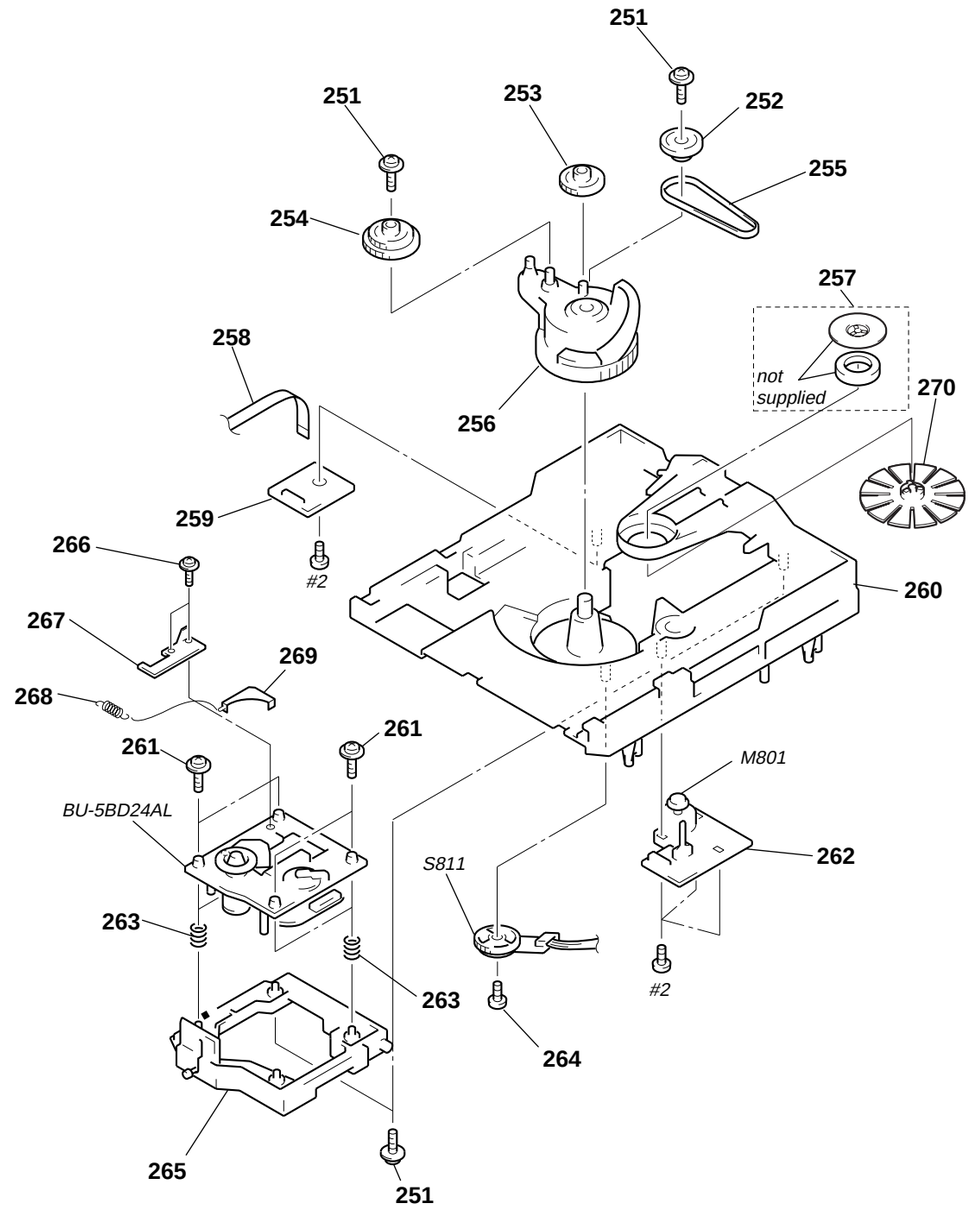
## (4) CD MECHANISM DECK SECTION-1 (CDM38L-5BD24AL)




| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 201 | 4-981-789-11 | BRACKET (2), YOKE | |
| 202 | 4-977-945-01 | TRAY (TURN) | |
| 203 | X-4946-665-1 | SHAFT ASSY, WORM | |
| 204 | 4-977-943-01 | BELT (TURN) (1.2) | |
| 205 | 4-977-956-01 | WHEEL, WORM | |
| * 206 | 1-658-577-11 | MOTOR (TURN) BOARD | |
| 207 | 4-988-162-01 | ROLLER | |
| 208 | 4-977-941-01 | BEARING (WORM) | |
| * 209 | 1-658-576-11 | SENSOR BOARD | |
| 210 | 4-934-376-01 | SHAFT (ROLLER) | |
| 211 | 4-981-187-01 | COLLAR (WORM) | |
| 212 | 4-977-944-01 | TRAY (SLIDE) | |
| M701 | A-4672-004-A | MOTOR ASSY (TURN) | |

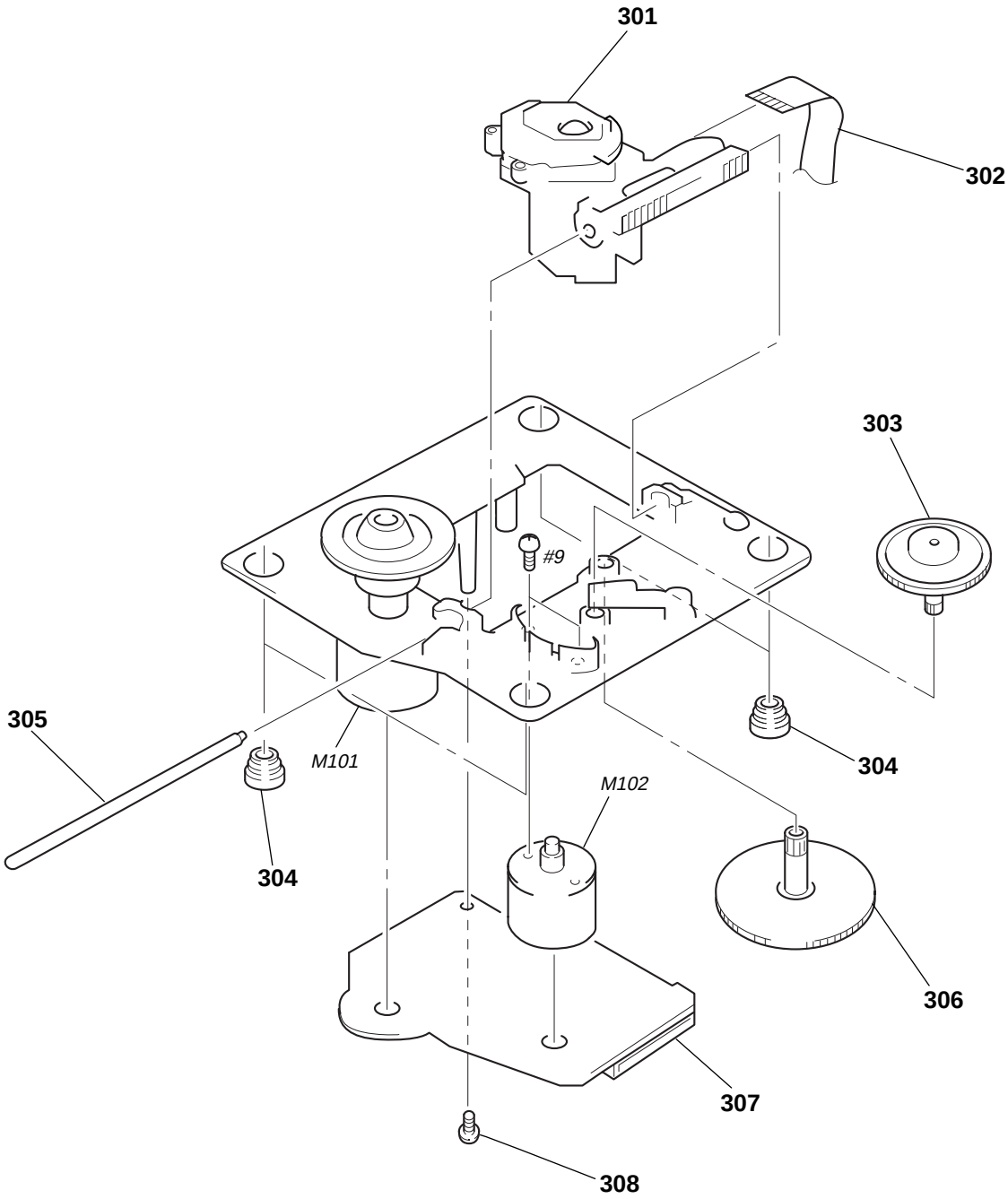


## (5) CD MECHANISM DECK SECTION-2 (CDM38L-5BD24AL)




| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 251 | 4-981-789-11 | BRACKET (2), YOKE | |
| 252 | 4-977-954-01 | PULLEY (SL) | |
| 253 | 4-977-953-01 | GEAR (SL-A) | |
| 254 | 4-977-955-01 | GEAR (SL-B) | |
| 255 | 4-977-942-01 | BELT (SL) (1.4) | |
| 256 | X-4946-667-1 | CAM ASSY, BU | |
| 257 | 1-452-925-11 | MAGNET ASSY | |
| 258 | 1-776-042-11 | WIRE (FLAT TYPE) (8 CORE) | |
| * 259 | 1-658-575-11 | CONNECTOR BOARD | |
| * 260 | X-4946-668-1 | CHASSIS (CDM) ASSY | |
| 261 | 4-985-672-01 | SCREW (+PTPWH M2.6), FLOATING | |
| * 262 | 1-658-578-11 | MOTOR (SLIDE) BOARD | |
| 263 | 4-982-447-01 | SPRING (BU), COMPRESSION | |
| 264 | 4-951-620-41 | SCREW (2.6), +BVTP | |
| * 265 | X-4946-666-1 | HOLDER (BU) ASSY | |
| 266 | 4-989-494-01 | SCREW (SLIDER), STEP | |
| 267 | 4-989-492-11 | SLIDER (38) | |
| 268 | 4-989-819-11 | SPRING, TENSION | |
| 269 | 4-989-491-11 | COVER, LENS | |
| 270 | 4-994-963-01 | PULLEY (LBT), PRESS | |
| M801 | A-4672-004-A | MOTOR ASSY (SLIDE) | |
| S811 | 1-473-335-11 | ENCODER, ROTARY (BU, TRAY ADDRESS DET) | |

## (6) BASE UNIT SECTION (BU-5BD24AL)

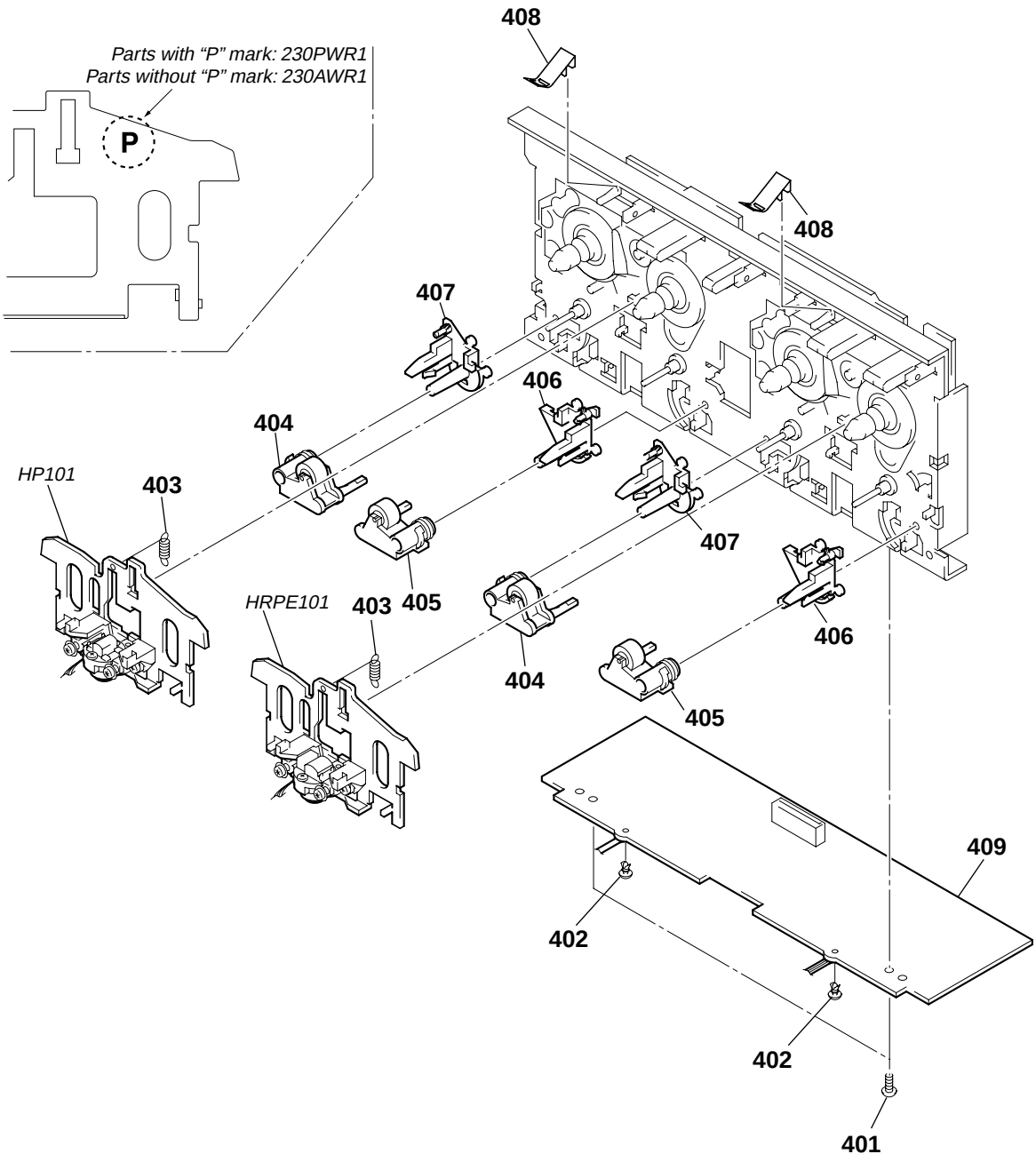



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| ⚠301 | 8-820-020-02 | OPTICAL PICK-UP KSS-213D/Q-NP | |
| 302 | 1-769-069-11 | WIRE (FLAT TYPE) (16 CORE) | |
| 303 | 4-917-567-01 | GEAR (M) | |
| 304 | 4-951-940-01 | INSULATOR (BU) | |
| 305 | 4-917-565-01 | SHAFT, SLED | |
| 306 | 4-917-564-01 | GEAR (P), FLATNESS | |
| * 307 | A-4699-697-A | BD BOARD, COMPLETE | |
| 308 | 4-951-620-01 | SCREW (2.6X8), +BVTP | |
| M101 | A-4917-523-A | MOTOR ASSY (SPINDLE) | |
| M102 | A-4917-504-A | MOTOR ASSY (SLED) | |

## (7) TAPE MECHANISM DECK SECTION-1
## (TCM-230AWR1 / TCM-230PWR1)

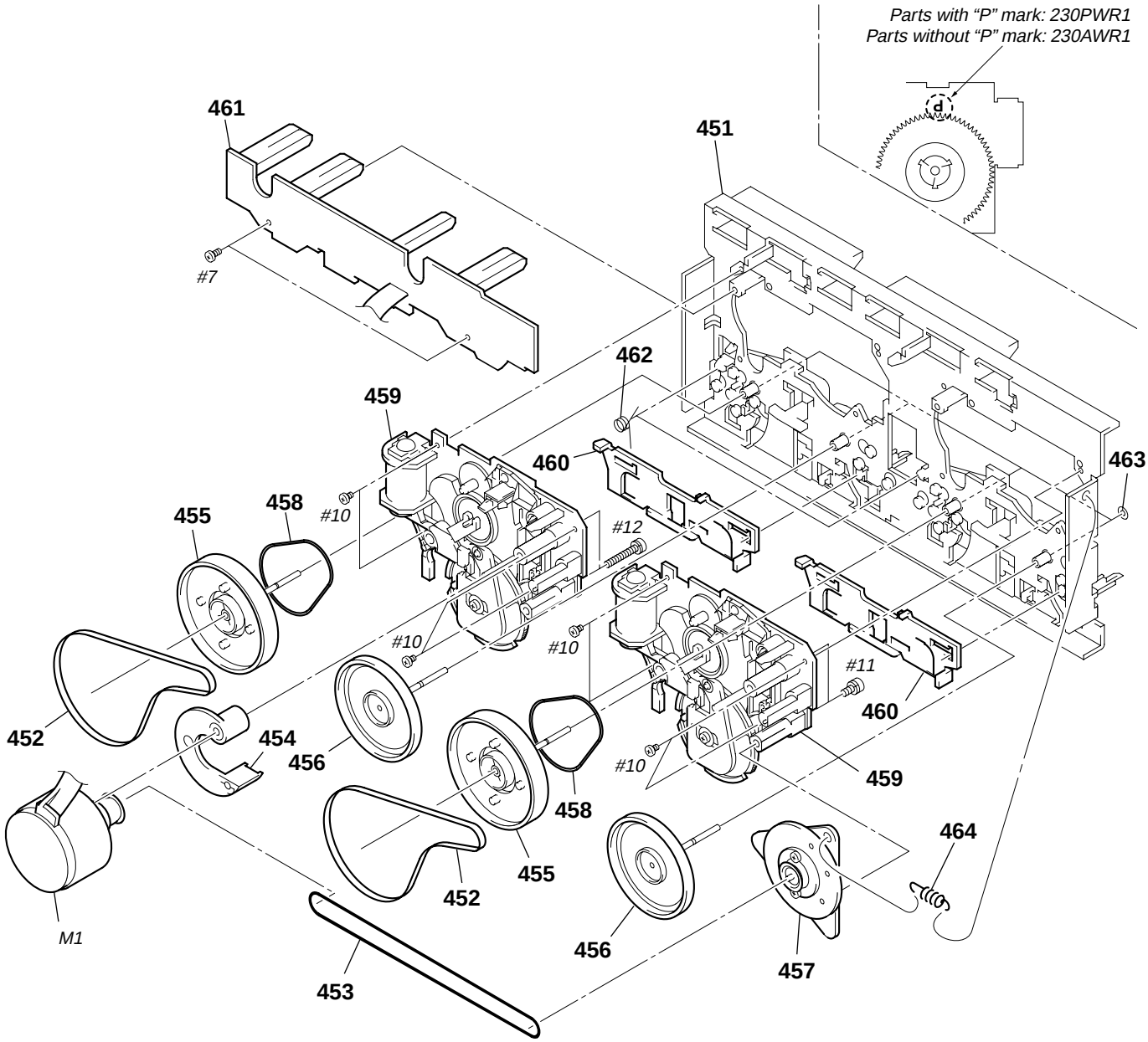
***NOTE:** Two types of parts which are not interchangeable are available for the Head deck (A) ASSY and Head deck (B) ASSY. When replacing the parts, refer to the following figure, and use the appropriate part*




| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 401 | 3-376-464-11 | SCREW (+PTT 2.6X6), GROUND POINT | |
| 402 | 3-911-116-21 | RIVET, PUSH | |
| 403 | 3-016-574-01 | SPRING (HEAD), TENSION | |
| 404 | X-3374-156-1 | PINCH LEVER (REV) ASSY | |
| 405 | X-3374-155-1 | PINCH LEVER (FWD) ASSY | |
| 406 | 3-016-564-01 | BASE (PINCH LEVER FWD) | |
| 407 | 3-016-565-01 | BASE (PINCH LEVER REV) | |
| 408 | 3-016-567-01 | SPRING (CASSETTE), LEAF | |
| * 409 | A-2007-731-A | AUDIO BOARD, COMPLETE | |
| HP101 | A-2056-681-A | DECK (A) ASSY, HEAD (230AWR1) (*NOTE) | |
| HP101 | A-2056-683-A | DECK (A) ASSY, HEAD (230PWR1) (*NOTE) | |
| HRPE101 | A-2056-682-A | DECK (B) ASSY, HEAD (230AWR1) (*NOTE) | |
| HRPE101 | A-2056-684-A | DECK (B) ASSY, HEAD (230PWR1) (*NOTE) | |

## (8) TAPE MECHANISM DECK SECTION-2
## (TCM-230AWR1 / TCM-230PWR1)

***NOTE:** Two types of parts which are not interchangeable are available for the mechanical block assembly. When replacing the parts, refer to the following figure, and use the appropriate part.*




| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| * 451 | X-3374-214-1 | CHASSIS ASSY, MAIN | |
| 452 | 3-016-570-01 | BELT (CAPSTAN) | |
| 453 | 3-016-569-01 | BELT (TENSION) | |
| 454 | 3-017-360-01 | BRACKET (MOTOR) | |
| 455 | X-3374-234-7 | FLYWHEEL (FWD) ASSY | |
| 456 | X-3374-235-1 | FLYWHEEL (REV) ASSY | |
| 457 | X-3374-238-1 | PULLEY ASSY, TENSION | |
| 458 | 3-024-405-01 | BELT (FR2) | |
| 459 | A-2004-629-A | MECHANICAL BLOCK ASSY (230AWR1) (*NOTE) | |
| 459 | A-2004-630-A | MECHANICAL BLOCK ASSY (230PWR1) (*NOTE) | |
| 460 | 3-016-566-01 | SLIDER, REVERSE | |
| * 461 | A-2007-732-A | LEAF SW BOARD, COMPLETE | |
| 462 | 3-016-575-01 | SPRING, TORSION | |
| 463 | 3-019-208-01 | WASHER, STOPPER | |
| 464 | 3-027-453-01 | SPRING (GROUND), TENSION | |
| M1 | A-2004-628-A | MOTOR ASSY, CAPSTAN | |

**AUDIO**

# SECTION 9
# ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA. . : µA. .  uPA. . : µPA. .
  uPB. . : µPB. .  uPC. . : µPC. .
  uPD. . : µPD. .
- CAPACITORS
  uF: µF
- COILS
  uH: µH

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board.

- Abbreviation
  CH : Chinese  IA : Indonesia  SP : Singapore
  EA : Saudi Arabia  JE : Tourist  TH : Thai
  HK : Hong Kong  MY : Malaysia  TW : Taiwan

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| * | A-2007-731-A | AUDIO BOARD, COMPLETE ********** | | | |
| | | < CAPACITOR > | | | |
| C301 | 1-162-289-31 | CERAMIC | 390PF | 10% | 50V |
| C302 | 1-126-968-11 | ELECT | 100uF | 20% | 6.3V |
| C303 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C304 | 1-130-483-00 | MYLAR | 0.01uF | 5% | 50V |
| C305 | 1-107-715-11 | ELECT | 22uF | 20% | 16V |
| C311 | 1-162-289-31 | CERAMIC | 390PF | 10% | 50V |
| C313 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C314 | 1-130-487-00 | MYLAR | 0.022uF | 5% | 50V |
| C315 | 1-126-233-11 | ELECT | 22uF | 20% | 50V |
| C331 | 1-137-427-11 | FILM | 120PF | 5% | 50V |
| C332 | 1-162-288-31 | CERAMIC | 330PF | 10% | 50V |
| C333 | 1-162-209-31 | CERAMIC | 27PF | 5% | 50V |
| C401 | 1-162-289-31 | CERAMIC | 390PF | 10% | 50V |
| C402 | 1-126-968-11 | ELECT | 100uF | 20% | 6.3V |
| C403 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C404 | 1-130-483-00 | MYLAR | 0.01uF | 5% | 50V |
| C405 | 1-107-715-11 | ELECT | 22uF | 20% | 16V |
| C411 | 1-162-289-31 | CERAMIC | 390PF | 10% | 50V |
| C413 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C414 | 1-130-487-00 | MYLAR | 0.022uF | 5% | 50V |
| C415 | 1-126-233-11 | ELECT | 22uF | 20% | 50V |
| C431 | 1-137-427-11 | FILM | 120PF | 5% | 50V |
| C432 | 1-162-288-31 | CERAMIC | 330PF | 10% | 50V |
| C433 | 1-162-209-31 | CERAMIC | 27PF | 5% | 50V |
| C601 | 1-104-396-11 | ELECT | 10uF | 20% | 16V |
| C602 | 1-104-396-11 | ELECT | 10uF | 20% | 16V |
| C611 | 1-104-396-11 | ELECT | 10uF | 20% | 16V |
| C612 | 1-104-396-11 | ELECT | 10uF | 20% | 16V |
| C621 | 1-137-150-11 | FILM | 0.01uF | 5% | 100V |
| C622 | 1-126-961-11 | ELECT | 2.2uF | 20% | 50V |
| C623 | 1-136-155-00 | FILM | 0.015uF | 5% | 50V |
| C624 | 1-130-481-00 | MYLAR | 0.0068uF | 5% | 50V |
| C625 | 1-130-481-00 | MYLAR | 0.0068uF | 5% | 50V |
| C627 | 1-124-903-11 | ELECT | 1uF | 20% | 50V |
| C628 | 1-136-153-00 | FILM | 0.01uF | 5% | 50V |
| C642 | 1-104-664-11 | ELECT | 47uF | 20% | 16V |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| | | < CONNECTOR > | | | |
| CN601 | 1-695-338-11 | PIN, CONNECTOR (PC BOARD) 15P | | | |
| | | < IC > | | | |
| IC601 | 8-759-111-44 | IC uPC4570C-1 | | | |
| IC602 | 8-759-143-54 | IC uPC1330HA | | | |
| IC611 | 8-759-111-44 | IC uPC4570C-1 | | | |
| | | < COIL > | | | |
| L331 | 1-410-780-11 | INDUCTOR | 27mH | | |
| L431 | 1-410-780-11 | INDUCTOR | 27mH | | |
| L601 | 1-414-193-41 | INDUCTOR | 220uH | | |
| L602 | 1-414-193-41 | INDUCTOR | 220uH | | |
| | | < TRANSISTOR > | | | |
| Q621 | 8-729-142-46 | TRANSISTOR | 2SC2001-LK | | |
| Q622 | 8-729-142-46 | TRANSISTOR | 2SC2001-LK | | |
| Q623 | 8-729-801-93 | TRANSISTOR | 2SD1387 | | |
| | | < RESISTOR > | | | |
| R301 | 1-247-881-00 | CARBON | 120K | 5% | 1/4W |
| R302 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R303 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R304 | 1-247-889-00 | CARBON | 270K | 5% | 1/4W |
| R305 | 1-247-858-11 | CARBON | 13K | 5% | 1/4W |
| R311 | 1-247-881-00 | CARBON | 120K | 5% | 1/4W |
| R312 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R314 | 1-247-882-11 | CARBON | 130K | 5% | 1/4W |
| R315 | 1-247-850-11 | CARBON | 6.2K | 5% | 1/4W |
| R331 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W |
| R401 | 1-247-881-00 | CARBON | 120K | 5% | 1/4W |
| R402 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R403 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R404 | 1-247-889-00 | CARBON | 270K | 5% | 1/4W |
| R405 | 1-247-858-11 | CARBON | 13K | 5% | 1/4W |
| R411 | 1-247-881-00 | CARBON | 120K | 5% | 1/4W |
| R412 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R414 | 1-247-882-11 | CARBON | 130K | 5% | 1/4W |
| R415 | 1-247-850-11 | CARBON | 6.2K | 5% | 1/4W |
| R431 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W |
| R601 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R602 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R608 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R609 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R611 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R612 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| ⚠R621 | 1-212-851-00 | FUSIBLE | 5.6 | 5% | 1/4W F |
| ⚠R622 | 1-212-851-00 | FUSIBLE | 5.6 | 5% | 1/4W F |
| R623 | 1-249-432-11 | CARBON | 18K | 5% | 1/4W |
| R624 | 1-249-432-11 | CARBON | 18K | 5% | 1/4W |
| R625 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| | | < VARIABLE RESISTOR > | | | |
| RV301 | 1-238-598-11 | RES, ADJ, CARBON 2.2K | | | |
| RV311 | 1-238-598-11 | RES, ADJ, CARBON 2.2K | | | |
| RV341 | 1-241-768-11 | RES, ADJ, CARBON 220K | | | |
| RV401 | 1-238-598-11 | RES, ADJ, CARBON 2.2K | | | |
| RV411 | 1-238-598-11 | RES, ADJ, CARBON 2.2K | | | |
| RV441 | 1-241-768-11 | RES, ADJ, CARBON 220K | | | |
| | | < TRANSFORMER > | | | |
| T621 | 1-423-980-11 | TRANSFORMER, BIAS OSCILLATION | | | |
| ********** | | | | | |
| * | A-4699-697-A | BD BOARD, COMPLETE | | | |
| | | ********** | | | |
| | | < CAPACITOR > | | | |
| C101 | 1-163-005-11 | CERAMIC CHIP | 470PF | 10% | 50V |
| C102 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C103 | 1-163-005-11 | CERAMIC CHIP | 470PF | 10% | 50V |
| C105 | 1-104-913-11 | TANTAL. CHIP | 10uF | 20% | 16V |
| C106 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C107 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C108 | 1-163-035-00 | CERAMIC CHIP | 0.047uF | | 50V |
| C109 | 1-163-145-00 | CERAMIC CHIP | 0.0015uF | 5% | 50V |
| C110 | 1-163-017-00 | CERAMIC CHIP | 0.0047uF | 5% | 50V |
| C111 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C112 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C113 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C115 | 1-126-607-11 | ELECT CHIP | 47uF | 20% | 4V |
| C116 | 1-126-607-11 | ELECT CHIP | 47uF | 20% | 4V |
| C117 | 1-126-209-11 | ELECT CHIP | 100uF | 20% | 4V |
| C118 | 1-163-275-11 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C119 | 1-163-091-00 | CERAMIC CHIP | 8PF | | 50V |
| C120 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C121 | 1-163-231-11 | CERAMIC CHIP | 15PF | 5% | 50V |
| C123 | 1-163-021-91 | CERAMIC CHIP | 0.01uF | 10% | 50V |
| C124 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C125 | 1-104-913-11 | TANTAL. CHIP | 10uF | 20% | 16V |
| C140 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C141 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C151 | 1-163-237-11 | CERAMIC CHIP | 27PF | 5% | 50V |
| C153 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C154 | 1-164-336-11 | CERAMIC CHIP | 0.33uF | | 25V |
| C156 | 1-163-237-11 | CERAMIC CHIP | 27PF | 5% | 50V |
| C157 | 1-163-145-00 | CERAMIC CHIP | 0.0015uF | 5% | 50V |
| C159 | 1-163-019-00 | CERAMIC CHIP | 0.0068uF | 10% | 50V |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C161 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C162 | 1-163-275-11 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| | | < CONNECTOR > | | | |
| CN101 | 1-770-706-11 | CONNECTOR, FFC/FPC 23P | | | |
| CN102 | 1-770-425-11 | CONNECTOR, FFC/FPC 16P | | | |
| | | < IC > | | | |
| IC101 | 8-752-369-78 | IC CXD2545Q | | | |
| IC102 | 8-759-455-91 | IC BA6392FP-E2 | | | |
| IC103 | 8-752-072-45 | IC CXA1821M-T6 | | | |
| IC104 | 8-759-398-25 | IC TC7SH04F (TE85L) | | | |
| | | < TRANSISTOR > | | | |
| Q101 | 8-729-010-08 | TRANSISTOR MSB710-R | | | |
| Q102 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | | | |
| Q103 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | | | |
| | | < RESISTOR > | | | |
| R101 | 1-216-077-00 | METAL CHIP | 15K | 5% | 1/10W |
| R102 | 1-216-097-00 | RES,CHIP | 100K | 5% | 1/10W |
| R103 | 1-216-077-00 | METAL CHIP | 15K | 5% | 1/10W |
| R104 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R105 | 1-216-097-00 | RES,CHIP | 100K | 5% | 1/10W |
| R106 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R107 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R108 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R109 | 1-216-121-00 | RES,CHIP | 1M | 5% | 1/10W |
| R110 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R112 | 1-216-049-11 | RES,CHIP | 1K | 5% | 1/10W |
| R123 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R124 | 1-216-097-00 | RES,CHIP | 100K | 5% | 1/10W |
| R125 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R126 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R127 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R131 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R134 | 1-216-049-11 | RES,CHIP | 1K | 5% | 1/10W |
| R141 | 1-216-089-00 | RES,CHIP | 47K | 5% | 1/10W |
| R142 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R143 | 1-216-103-00 | METAL CHIP | 180K | 5% | 1/10W |
| R144 | 1-216-103-00 | METAL CHIP | 180K | 5% | 1/10W |
| R146 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R147 | 1-216-067-00 | METAL CHIP | 5.6K | 5% | 1/10W |
| R148 | 1-216-001-00 | METAL CHIP | 10 | 5% | 1/10W |
| R149 | 1-216-003-11 | RES,CHIP | 12 | 5% | 1/10W |
| R150 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R151 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R152 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R153 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R154 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R155 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R156 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R158 | 1-216-109-00 | METAL CHIP | 330K | 5% | 1/10W |
| R159 | 1-216-097-00 | RES,CHIP | 100K | 5% | 1/10W |
| R160 | 1-216-295-00 | SHORT | 0 | | |
| R161 | 1-216-308-00 | METAL CHIP | 4.7 | 5% | 1/10W |
| R162 | 1-216-101-00 | METAL CHIP | 150K | 5% | 1/10W |
| R171 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

# BD CD-SW CONNECTOR HP LEAF SW

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R172 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R173 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R175 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R176 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R177 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R178 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R179 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| | | < SWITCH > | | | |
| S101 | 1-572-085-11 | SWITCH, LEAF (LIMIT) | | | |
| ********** | | | | | |
| * | 1-670-067-11 | CD-SW BOARD | | | |
| | | ********** | | | |
| | | < DIODE > | | | |
| D631 | 8-719-056-13 | LED SML79423C-TP15 (DISC 1) | | | |
| D632 | 8-719-056-13 | LED SML79423C-TP15 (DISC 2) | | | |
| D633 | 8-719-056-13 | LED SML79423C-TP15 (DISC 3) | | | |
| | | < TRANSISTOR > | | | |
| Q613 | 8-729-029-68 | TRANSISTOR DTC114TSA | | | |
| Q614 | 8-729-029-68 | TRANSISTOR DTC114TSA | | | |
| Q615 | 8-729-029-68 | TRANSISTOR DTC114TSA | | | |
| | | < RESISTOR > | | | |
| R656 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R657 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R658 | 1-249-424-11 | CARBON | 3.9K | 5% | 1/4W |
| R659 | 1-249-426-11 | CARBON | 5.6K | 5% | 1/4W |
| R660 | 1-249-428-11 | CARBON | 8.2K | 5% | 1/4W |
| R691 | 1-247-804-11 | CARBON | 75 | 5% | 1/4W |
| R692 | 1-247-804-11 | CARBON | 75 | 5% | 1/4W |
| R693 | 1-247-804-11 | CARBON | 75 | 5% | 1/4W |
| R694 | 1-247-804-11 | CARBON | 75 | 5% | 1/4W |
| R695 | 1-247-804-11 | CARBON | 75 | 5% | 1/4W |
| R696 | 1-247-804-11 | CARBON | 75 | 5% | 1/4W |
| | | < SWITCH > | | | |
| S637 | 1-762-875-21 | SWITCH, KEYBOARD (I/⏻ (POWER)) | | | |
| S638 | 1-762-875-21 | SWITCH, KEYBOARD (DISC 1) | | | |
| S639 | 1-762-875-21 | SWITCH, KEYBOARD (DISC 2) | | | |
| S640 | 1-762-875-21 | SWITCH, KEYBOARD (DISC 3) | | | |
| S641 | 1-762-875-21 | SWITCH, KEYBOARD (DISC SKIP/EX-CHANGE) | | | |
| S642 | 1-762-875-21 | SWITCH, KEYBOARD (⏏) | | | |
| ********** | | | | | |
| * | 1-658-575-11 | CONNECTOR BOARD | | | |
| | | ********** | | | |
| | | < CONNECTOR > | | | |
| * CN701 | 1-568-946-11 | PIN, CONNECTOR 8P | | | |
| CN702 | 1-750-413-11 | CONNECTOR, FFC/FPC 8P | | | |
| | | < TRANSISTOR > | | | |
| Q701 | 8-729-900-80 | TRANSISTOR DTC114ES | | | |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| | | < RESISTOR > | | | |
| R703 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R704 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R705 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| ********** | | | | | |
| * | 1-670-070-11 | HP BOARD | | | |
| | | ********* | | | |
| | | < CAPACITOR > | | | |
| C421 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| C471 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| C472 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| | | < CONNECTOR > | | | |
| * CN109 | 1-564-521-11 | PLUG, CONNECTOR 6P | | | |
| | | < LEAD > | | | |
| EL1 | 1-690-880-41 | LEAD (WITH CONNECTOR) | | | |
| | | < JACK > | | | |
| J421 | 1-785-200-11 | JACK (LARGE TYPE) (PHONES) | | | |
| ********** | | | | | |
| * | A-2007-732-A | LEAF SW BOARD, COMPLETE | | | |
| | | ********** | | | |
| | | < CAPACITOR > | | | |
| C1001 | 1-107-716-11 | ELECT | 33uF | 20% | 10V |
| | | < CONNECTOR > | | | |
| CN1001 | 1-784-459-11 | CONNECTOR, FFC/FPC 17P | | | |
| | | < DIODE > | | | |
| D1001 | 8-719-911-19 | DIODE 1SS119 | | | |
| D1002 | 8-719-911-19 | DIODE 1SS119 | | | |
| | | < CONNECTOR > | | | |
| * DM1001 | 1-784-581-11 | HOLDER, CABLE (2.5MM PITCH) 4P | | | |
| | | < PHOTO INTERRUPTER > | | | |
| IC1001 | 8-749-014-38 | PHOTO INTERRUPTER SG-264 | | | |
| IC1002 | 8-749-014-38 | PHOTO INTERRUPTER SG-264 | | | |
| | | < TRANSISTOR > | | | |
| Q1001 | 8-729-029-56 | TRANSISTOR DTA144ESA | | | |
| | | < RESISTOR > | | | |
| R907 | 1-247-879-11 | CARBON | 100K | 5% | 1/4W |
| R1001 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R1002 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R1003 | 1-249-414-11 | CARBON | 560 | 5% | 1/4W |
| R1004 | 1-247-834-11 | CARBON | 1.3K | 5% | 1/4W |
| R1005 | 1-247-818-11 | CARBON | 300 | 5% | 1/4W |
| R1006 | 1-247-864-11 | CARBON | 24K | 5% | 1/4W |
| R1007 | 1-247-856-00 | CARBON | 11K | 5% | 1/4W |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R1008 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| | | < VARIABLE RESISTOR > | | | |
| RV1001 | 1-241-785-11 | RES, ADJ, CARBON 10K | | | |
| RV1002 | 1-241-785-11 | RES, ADJ, CARBON 10K | | | |
| | | < SWITCH > | | | |
| S1001 | 1-570-953-11 | SWITCH, PUSH (1 KEY) (A PLAY) | | | |
| S1002 | 1-570-953-11 | SWITCH, PUSH (1 KEY) (B PLAY) | | | |
| S1003 | 1-771-333-11 | SWITCH, LEAF (A HALF) | | | |
| S1004 | 1-771-205-11 | SWITCH, LEAF (A 120/70) | | | |
| S1005 | 1-771-205-11 | SWITCH, LEAF (REC A) | | | |
| S1006 | 1-771-333-11 | SWITCH, LEAF (B HALF) | | | |
| S1008 | 1-771-205-11 | SWITCH, LEAF (B 120/70) | | | |
| S1009 | 1-771-205-11 | SWITCH, LEAF (REC B) | | | |
| ********** | | | | | |
| * | A-4414-019-A | MAIN BOARD, COMPLETE (EXCEPT TH, CH) | | | |
| * | A-4414-486-A | MAIN BOARD, COMPLETE (TH) | | | |
| * | A-4414-869-A | MAIN BOARD, COMPLETE (CH) | | | |
| | | ********** | | | |
| | | < CAPACITOR > | | | |
| C101 | 1-162-286-31 | CERAMIC | 220PF | 10% | 50V |
| C102 | 1-162-286-31 | CERAMIC | 220PF | 10% | 50V |
| C111 | 1-137-195-11 | FILM | 0.56uF | 5% | 50V |
| C112 | 1-136-158-00 | FILM | 0.027uF | 5% | 50V |
| C113 | 1-136-167-00 | FILM | 0.15uF | 5% | 50V |
| C114 | 1-130-480-00 | MYLAR | 0.0056uF | 5% | 50V |
| C115 | 1-136-159-00 | FILM | 0.033uF | 5% | 50V |
| C116 | 1-130-473-00 | MYLAR | 0.0015uF | 5% | 50V |
| C117 | 1-136-153-00 | FILM | 0.01uF | 5% | 50V |
| C118 | 1-110-341-11 | MYLAR | 330PF | 5% | 50V |
| C119 | 1-130-479-00 | MYLAR | 0.0047uF | 5% | 50V |
| C120 | 1-130-477-00 | MYLAR | 0.0033uF | 5% | 50V |
| C121 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C122 | 1-162-291-31 | CERAMIC | 560PF | 10% | 50V |
| C123 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C124 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C125 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C131 | 1-104-664-11 | ELECT | 47uF | 20% | 16V |
| C132 | 1-104-664-11 | ELECT | 47uF | 20% | 16V |
| C133 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C134 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C135 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C136 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C141 | 1-126-959-11 | ELECT | 0.47uF | 20% | 50V |
| C151 | 1-162-286-31 | CERAMIC | 220PF | 10% | 50V |
| C152 | 1-162-286-31 | CERAMIC | 220PF | 10% | 50V |
| C161 | 1-137-195-11 | FILM | 0.56uF | 5% | 50V |
| C162 | 1-136-158-00 | FILM | 0.027uF | 5% | 50V |
| C163 | 1-136-167-00 | FILM | 0.15uF | 5% | 50V |
| C164 | 1-130-480-00 | MYLAR | 0.0056uF | 5% | 50V |
| C165 | 1-136-159-00 | FILM | 0.033uF | 5% | 50V |
| C166 | 1-130-473-00 | MYLAR | 0.0015uF | 5% | 50V |
| C167 | 1-136-153-00 | FILM | 0.01uF | 5% | 50V |
| C168 | 1-110-341-11 | MYLAR | 330PF | 5% | 50V |
| C169 | 1-130-479-00 | MYLAR | 0.0047uF | 5% | 50V |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C170 | 1-130-477-00 | MYLAR | 0.0033uF | 5% | 50V |
| C171 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C172 | 1-162-291-31 | CERAMIC | 560PF | 10% | 50V |
| C173 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C174 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C175 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C176 | 1-136-495-11 | FILM | 0.068uF | 5% | 50V |
| C177 | 1-136-153-00 | FILM | 0.01uF | 5% | 50V |
| C191 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C192 | 1-162-292-31 | CERAMIC | 680PF | 10% | 50V |
| C193 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C194 | 1-162-286-31 | CERAMIC | 220PF | 10% | 50V |
| C195 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C196 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C301 | 1-126-160-11 | ELECT | 1uF | 20% | 50V |
| C302 | 1-130-479-00 | MYLAR | 0.0047uF | 5% | 50V |
| C303 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C304 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C305 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C306 | 1-126-160-11 | ELECT | 1uF | 20% | 50V |
| C307 | 1-126-959-11 | ELECT | 0.47uF | 20% | 50V |
| C308 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C309 | 1-136-173-00 | FILM | 0.47uF | 5% | 50V |
| C310 | 1-162-290-31 | CERAMIC | 470PF | 10% | 50V |
| C311 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C312 | 1-126-959-11 | ELECT | 0.47uF | 20% | 50V |
| C313 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| C314 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C315 | 1-126-963-11 | ELECT | 4.7uF | 20% | 50V |
| C316 | 1-104-665-11 | ELECT | 100uF | 20% | 10V |
| C317 | 1-104-665-11 | ELECT | 100uF | 20% | 10V |
| C320 | 1-162-290-31 | CERAMIC | 470PF | 10% | 50V |
| C331 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C332 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C333 | 1-162-600-11 | CERAMIC | 0.0047uF | 20% | 16V |
| C334 | 1-162-600-11 | CERAMIC | 0.0047uF | 20% | 16V |
| C351 | 1-126-160-11 | ELECT | 1uF | 20% | 50V |
| C352 | 1-130-479-00 | MYLAR | 0.0047uF | 5% | 50V |
| C353 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C354 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C355 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C356 | 1-126-160-11 | ELECT | 1uF | 20% | 50V |
| C357 | 1-126-959-11 | ELECT | 0.47uF | 20% | 50V |
| C358 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C359 | 1-136-173-00 | FILM | 0.47uF | 5% | 50V |
| C381 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C382 | 1-104-665-11 | ELECT | 100uF | 20% | 10V |
| C391 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C392 | 1-126-916-11 | ELECT | 1000uF | 20% | 6.3V |
| C393 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C394 | 1-126-925-11 | ELECT | 470uF | 20% | 10V |
| C396 | 1-126-961-11 | ELECT | 2.2uF | 20% | 50V |
| C397 | 1-126-961-11 | ELECT | 2.2uF | 20% | 50V |
| C401 | 1-136-495-11 | FILM | 0.068uF | 5% | 50V (CH) |
| C402 | 1-136-495-11 | FILM | 0.068uF | 5% | 50V (CH) |

# MAIN

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C403 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V (CH) |
| C410 | 1-126-963-11 | ELECT | 4.7uF | 20% | 50V |
| C411 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C431 | 1-126-934-11 | ELECT | 220uF | 20% | 10V |
| C432 | 1-104-665-11 | ELECT | 100uF | 20% | 10V |
| C433 | 1-126-961-11 | ELECT | 2.2uF | 20% | 50V |
| C451 | 1-136-495-11 | FILM | 0.068uF | 5% | 50V (CH) |
| C452 | 1-136-495-11 | FILM | 0.068uF | 5% | 50V (CH) |
| C453 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V (CH) |
| C501 | 1-104-664-11 | ELECT | 47uF | 20% | 10V |
| C502 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C503 | 1-136-173-00 | FILM | 0.47uF | 5% | 50V |
| C504 | 1-126-916-11 | ELECT | 1000uF | 20% | 6.3V |
| C505 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C506 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C507 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C508 | 1-104-665-11 | ELECT | 100uF | 20% | 10V |
| C509 | 1-102-958-00 | CERAMIC | 20PF | 5% | 50V |
| C510 | 1-102-514-11 | CERAMIC | 22PF | 5% | 50V |
| C571 | 1-109-889-11 | ELECT | 1uF | 20% | 50V |
| C901 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C902 | 1-111-235-61 | ELECT | 10000uF | 20% | 25V |
| C903 | 1-104-666-11 | ELECT | 220uF | 20% | 25V |
| C904 | 1-104-664-11 | ELECT | 47uF | 20% | 16V |
| C905 | 1-104-661-91 | ELECT | 330uF | 20% | 16V |
| C909 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C910 | 1-104-665-11 | ELECT | 100uF | 20% | 10V |
| C911 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C912 | 1-126-767-11 | ELECT | 1000uF | 20% | 16V |
| C913 | 1-126-943-11 | ELECT | 2200uF | 20% | 25V |
| C914 | 1-126-767-11 | ELECT | 1000uF | 20% | 16V |
| C915 | 1-104-664-11 | ELECT | 47uF | 20% | 16V |
| C916 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C917 | 1-126-933-11 | ELECT | 100uF | 20% | 16V |
| C918 | 1-126-968-11 | ELECT | 100uF | 20% | 50V |
| C919 | 1-126-968-11 | ELECT | 100uF | 20% | 50V |
| C920 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C921 | 1-126-947-11 | ELECT | 47uF | 20% | 35V |
| C922 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C923 | 1-126-767-11 | ELECT | 1000uF | 20% | 16V |
| C951 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C952 | 1-126-943-11 | ELECT | 2200uF | 20% | 25V |
| C953 | 1-104-666-11 | ELECT | 220uF | 20% | 25V |
| C955 | 1-104-661-91 | ELECT | 330uF | 20% | 16V |
| | | < CONNECTOR > | | | |
| CN101 | 1-778-982-11 | CONNECTOR, BOARD TO BOARD 13P | | | |
| CN102 | 1-568-834-11 | SOCKET, CONNECTOR 15P | | | |
| * CN103 | 1-568-946-11 | PIN, CONNECTOR 8P | | | |
| * CN104 | 1-568-947-11 | PIN, CONNECTOR 9P | | | |
| CN105 | 1-784-601-11 | SOCKET, CONNECTOR (NON ZIF)13P | | | |
| CN106 | 1-568-834-11 | SOCKET, CONNECTOR 15P | | | |
| * CN107 | 1-568-836-11 | SOCKET, CONNECTOR 17P | | | |
| CN110 | 1-564-506-11 | PLUG, CONNECTOR 3P | | | |
| * CN201 | 1-568-832-11 | SOCKET, CONNECTOR 13P | | | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| * CN301 | 1-568-449-11 | HOUSING, CONNECTOR(PC BOARD)3P | |
| | | < DIODE > | |
| D141 | 8-719-911-19 | DIODE 1SS119 | |
| D333 | 8-719-911-19 | DIODE 1SS119 | |
| D334 | 8-719-911-19 | DIODE 1SS119 | |
| D401 | 8-719-911-19 | DIODE 1SS119 | |
| D403 | 8-719-911-19 | DIODE 1SS119 | |
| D404 | 8-719-911-19 | DIODE 1SS119 | |
| D405 | 8-719-024-99 | DIODE 11ES2-NTA2B | |
| D406 | 8-719-024-99 | DIODE 11ES2-NTA2B | |
| D407 | 8-719-024-99 | DIODE 11ES2-NTA2B | |
| D501 | 8-719-024-99 | DIODE 11ES2-NTA2B | |
| D502 | 8-719-024-99 | DIODE 11ES2-NTA2B | |
| D503 | 8-719-911-19 | DIODE 1SS119 | |
| D504 | 8-719-911-19 | DIODE 1SS119 | |
| D505 | 8-719-911-19 | DIODE 1SS119 | |
| D506 | 8-719-911-19 | DIODE 1SS119 | |
| D507 | 8-719-024-99 | DIODE 11ES2-NTA2B | |
| D508 | 8-719-911-19 | DIODE 1SS119 | |
| D901 | 8-719-975-85 | DIODE ERB83-004 | |
| D902 | 8-719-975-85 | DIODE ERB83-004 | |
| D903 | 8-719-975-85 | DIODE ERB83-004 | |
| D904 | 8-719-975-85 | DIODE ERB83-004 | |
| D905 | 8-719-933-36 | DIODE HZS6B1L | |
| D906 | 8-719-911-19 | DIODE 1SS119 | |
| D907 | 8-719-024-99 | DIODE 11ES2-NTA2B | |
| D908 | 8-719-024-99 | DIODE 11ES2-NTA2B | |
| D909 | 8-719-024-99 | DIODE 11ES2-NTA2B | |
| D910 | 8-719-024-99 | DIODE 11ES2-NTA2B | |
| D911 | 8-719-934-25 | DIODE HZS33-1L | |
| D912 | 8-719-921-48 | DIODE MTZJ-T-72-5.6C | |
| D913 | 8-719-911-19 | DIODE 1SS119 | |
| D914 | 8-719-024-99 | DIODE 11ES2-NTA2B | |
| D915 | 8-719-935-69 | DIODE HZS11B1LTA | |
| D917 | 8-719-911-19 | DIODE 1SS119 | |
| D918 | 8-719-024-99 | DIODE 11ES2-NTA2B | |
| | | < GROUND PLATE > | |
| * EPT1 | 4-870-539-11 | PLATE, GROUND | |
| | | < IC > | |
| IC101 | 8-759-495-24 | IC M62442FP-TP | |
| IC102 | 8-759-634-51 | IC M5218AP | |
| IC191 | 8-759-634-50 | IC M5218AL | |
| IC301 | 8-759-495-26 | IC HA12215 | |
| IC381 | 8-749-923-04 | IC TOTX178 (CD DIGITAL OUT, OPTICAL) | |
| IC501 | 8-759-546-35 | IC uPD780016AYGF014-3BA | |
| IC502 | 8-759-635-63 | IC M51943BSL | |
| IC901 | 8-759-604-86 | IC M5F7807L | |
| IC902 | 8-759-231-53 | IC TA7805S | |
| IC903 | 8-759-231-58 | IC TA7812S | |
| IC904 | 8-759-231-53 | IC TA7805S | |
| | | < JACK > | |
| J101 | 1-695-188-31 | JACK, PIN 4P (MD/VIDEO (AUDIO), IN/OUT) | |
| J191 | 1-774-785-11 | JACK, PIN 1P (SUPER WOOFER) | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | | < COIL > | |
| L381 | 1-410-521-11 | INDUCTOR 100uH | |
| L401 | 1-420-872-00 | COIL, AIR-CORE (CH) | |
| L451 | 1-420-872-00 | COIL, AIR-CORE (CH) | |
| L501 | 1-410-509-11 | INDUCTOR 10uH | |
| | | < TRANSISTOR > | |
| Q111 | 8-729-620-05 | TRANSISTOR 2SC2603-EF | |
| Q112 | 8-729-620-05 | TRANSISTOR 2SC2603-EF | |
| Q113 | 8-729-141-30 | TRANSISTOR 2SC3623A-LK | |
| Q161 | 8-729-620-05 | TRANSISTOR 2SC2603-EF | |
| Q162 | 8-729-620-05 | TRANSISTOR 2SC2603-EF | |
| Q163 | 8-729-141-30 | TRANSISTOR 2SC3623A-LK | |
| Q191 | 8-729-141-30 | TRANSISTOR 2SC3623A-LK | |
| Q331 | 8-729-116-59 | TRANSISTOR 2SB1068TP | |
| Q332 | 8-729-029-66 | TRANSISTOR DTC114ESA | |
| Q333 | 8-729-116-59 | TRANSISTOR 2SB1068TP | |
| Q334 | 8-729-029-66 | TRANSISTOR DTC114ESA | |
| Q335 | 8-729-029-66 | TRANSISTOR DTC114ESA | |
| Q336 | 8-729-116-59 | TRANSISTOR 2SB1068TP | |
| Q337 | 8-729-045-21 | TRANSISTOR 2SD1513TP-LK | |
| Q338 | 8-729-029-21 | TRANSISTOR DTA114ESA-TP | |
| Q339 | 8-729-029-66 | TRANSISTOR DTC114ESA | |
| Q340 | 8-729-116-59 | TRANSISTOR 2SB1068TP | |
| Q341 | 8-729-045-21 | TRANSISTOR 2SD1513TP-LK | |
| Q342 | 8-729-029-21 | TRANSISTOR DTA114ESA-TP | |
| Q343 | 8-729-029-66 | TRANSISTOR DTC114ESA | |
| Q401 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | |
| Q402 | 8-729-111-29 | TRANSISTOR 2SD1616A-K | |
| Q431 | 8-729-140-84 | TRANSISTOR 2SC1841-PAFAEA | |
| Q432 | 8-729-140-82 | TRANSISTOR 2SA988-PAFAEA | |
| Q433 | 8-729-140-84 | TRANSISTOR 2SC1841-PAFAEA | |
| Q434 | 8-729-140-84 | TRANSISTOR 2SC1841-PAFAEA | |
| Q435 | 8-729-029-86 | TRANSISTOR DTC124ESA | |
| Q436 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | |
| Q437 | 8-729-029-86 | TRANSISTOR DTC124ESA | |
| Q501 | 8-729-620-05 | TRANSISTOR 2SC2603-EF | |
| Q571 | 8-729-029-40 | TRANSISTOR DTA124ESA | |
| Q572 | 8-729-029-40 | TRANSISTOR DTA124ESA | |
| Q575 | 8-729-029-86 | TRANSISTOR DTC124ESA | |
| Q901 | 8-729-209-15 | TRANSISTOR 2SD2012 | |
| Q902 | 8-729-620-05 | TRANSISTOR 2SC2603-EF | |
| Q903 | 8-729-029-68 | TRANSISTOR DTC114TSA | |
| Q905 | 8-729-040-20 | TRANSISTOR RT1P137L-TP | |
| Q906 | 8-729-029-40 | TRANSISTOR DTA124ESA | |
| Q907 | 8-729-040-20 | TRANSISTOR RT1P137L-TP | |
| Q908 | 8-729-029-86 | TRANSISTOR DTC124ESA | |
| Q909 | 8-729-026-68 | TRANSISTOR 2SD2525 (TP) | |
| Q910 | 8-729-030-19 | TRANSISTOR 2SB1640 | |
| Q911 | 8-729-141-83 | TRANSISTOR 2SB1094-LK | |
| Q912 | 8-729-900-36 | TRANSISTOR DTC124ES | |
| Q913 | 8-729-620-05 | TRANSISTOR 2SC2603-EF | |
| Q914 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | |
| Q951 | 8-729-141-83 | TRANSISTOR 2SB1094-LK | |
| Q952 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| | | < RESISTOR > | | | |
| R101 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R102 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R111 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R112 | 1-247-903-00 | CARBON | 1M | 5% | 1/4W |
| R113 | 1-247-903-00 | CARBON | 1M | 5% | 1/4W |
| R114 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R115 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R116 | 1-247-887-00 | CARBON | 220K | 5% | 1/4W |
| R117 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R118 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R119 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R120 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R121 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R123 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R124 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R125 | 1-247-843-11 | CARBON | 3.3K | 5% | 1/4W |
| R126 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R127 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R128 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R131 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R132 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R133 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R141 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R142 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R143 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R144 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R145 | 1-247-903-00 | CARBON | 1M | 5% | 1/4W |
| R151 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R152 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R161 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R162 | 1-247-903-00 | CARBON | 1M | 5% | 1/4W |
| R163 | 1-247-903-00 | CARBON | 1M | 5% | 1/4W |
| R164 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R165 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R166 | 1-247-887-00 | CARBON | 220K | 5% | 1/4W |
| R167 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R168 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R169 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R170 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R171 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R173 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R178 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R191 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R192 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R193 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R194 | 1-247-843-11 | CARBON | 3.3K | 5% | 1/4W |
| R195 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R196 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R197 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R198 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R199 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R301 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R302 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R303 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R304 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R305 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |

# MAIN

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R306 | 1-249-428-11 | CARBON | 8.2K | 5% | 1/4W |
| R307 | 1-249-428-11 | CARBON | 8.2K | 5% | 1/4W |
| R308 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R309 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R311 | 1-247-903-00 | CARBON | 1M | 5% | 1/4W |
| R312 | 1-247-884-11 | CARBON | 160K | 5% | 1/4W |
| R313 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R315 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R316 | 1-249-432-11 | CARBON | 18K | 5% | 1/4W |
| R317 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R318 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R319 | 1-247-893-11 | CARBON | 390K | 5% | 1/4W |
| R321 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R322 | 1-249-428-11 | CARBON | 8.2K | 5% | 1/4W |
| R324 | 1-247-876-11 | CARBON | 75K | 5% | 1/4W |
| R325 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R326 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R327 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R328 | 1-247-876-11 | CARBON | 75K | 5% | 1/4W |
| R329 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R330 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R331 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R332 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W |
| R333 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R334 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W |
| R335 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R336 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R337 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R338 | 1-249-411-11 | CARBON | 330 | 5% | 1/4W |
| R339 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R340 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R341 | 1-249-411-11 | CARBON | 330 | 5% | 1/4W |
| R342 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R343 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R351 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R352 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R353 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R354 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R355 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R356 | 1-249-428-11 | CARBON | 8.2K | 5% | 1/4W |
| R357 | 1-249-428-11 | CARBON | 8.2K | 5% | 1/4W |
| R358 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R359 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R391 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R392 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R393 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R394 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R395 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R401 | 1-260-076-11 | CARBON | 10 | 5% | 1/2W (CH) |
| R402 | 1-260-076-11 | CARBON | 10 | 5% | 1/2W (CH) |
| R406 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R407 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R408 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R409 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R410 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| ⚠R411 | 1-215-893-11 | METAL OXIDE | 1.5K | 5% | 2W F |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R421 | 1-260-091-11 | CARBON | 220 | 5% | 1/2W |
| R422 | 1-260-091-11 | CARBON | 220 | 5% | 1/2W |
| R431 | 1-249-438-11 | CARBON | 56K | 5% | 1/4W |
| R432 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R435 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R437 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R438 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R439 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R440 | 1-247-903-00 | CARBON | 1M | 5% | 1/4W |
| R441 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R443 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R451 | 1-260-076-11 | CARBON | 10 | 5% | 1/2W (CH) |
| R452 | 1-260-076-11 | CARBON | 10 | 5% | 1/2W (CH) |
| R471 | 1-260-091-11 | CARBON | 220 | 5% | 1/2W |
| R472 | 1-260-091-11 | CARBON | 220 | 5% | 1/2W |
| R501 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W |
| R502 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R503 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R504 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R505 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R507 | 1-247-897-11 | CARBON | 560K | 5% | 1/4W |
| R508 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R511 | 1-249-431-11 | CARBON | 15K | 5% | 1/4W (TH, CH) |
| R512 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W (TH, CH) |
| R524 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R526 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R531 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R532 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R533 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R535 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R536 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R537 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R538 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R539 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R540 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R541 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R542 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R543 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R544 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R545 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R546 | 1-247-843-11 | CARBON | 3.3K | 5% | 1/4W |
| R547 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W |
| R550 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R551 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R552 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R553 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R554 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R555 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R556 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R557 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R558 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R559 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R561 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R562 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R563 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R564 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R565 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R566 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R567 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R571 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R572 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R576 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R577 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R901 | 1-247-843-11 | CARBON | 3.3K | 5% | 1/4W |
| R902 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W |
| R903 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R904 | 1-249-414-11 | CARBON | 560 | 5% | 1/4W |
| R905 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R906 | 1-247-843-11 | CARBON | 3.3K | 5% | 1/4W |
| R907 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W |
| R908 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R909 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W |
| R911 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R912 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R913 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R914 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R915 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R916 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R917 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R920 | 1-249-383-11 | CARBON | 1.5 | 5% | 1/6W |
| R921 | 1-249-383-11 | CARBON | 1.5 | 5% | 1/6W |
| | | < VARIABLE RESISTOR > | | | |
| RV301 | 1-238-600-11 | RES, ADJ, CARBON 10K | | | |
| RV351 | 1-238-600-11 | RES, ADJ, CARBON 10K | | | |
| | | < RELAY > | | | |
| RY401 | 1-755-141-11 | RELAY | | | |
| | | < TERMINAL > | | | |
| TM401 | 1-537-240-31 | TERMINAL BOARD (CHECKER PIN) | | | (SPEAKER) |
| | | < VIBRATOR > | | | |
| X501 | 1-760-489-11 | VIBRATOR, CERAMIC (5MHz) | | | |
| X502 | 1-567-098-41 | VIBRATOR, CRYSTAL (32.768kHz) | | | |
| ********** | | | | | |
| * | 1-658-578-11 | MOTOR (SLIDE) BOARD<br>********** | | | |
| | | < CAPACITOR > | | | |
| C801 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C804 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C805 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| | | < CONNECTOR > | | | |
| * CN801 | 1-568-947-11 | PIN, CONNECTOR 9P | | | |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| | | < DIODE > | | | |
| D801 | 8-719-921-48 | DIODE MTZJ-T-72-5.6C | | | |
| D804 | 8-719-911-19 | DIODE 1SS119 | | | |
| D805 | 8-719-911-19 | DIODE 1SS119 | | | |
| | | < IC > | | | |
| IC801 | 8-759-274-09 | IC BA6286N | | | |
| | | < RESISTOR > | | | |
| R801 | 1-249-401-11 | CARBON | 47 | 5% | 1/4W |
| | | < SWITCH > | | | |
| S801 | 1-762-527-11 | SWITCH, ROTARY (OPEN/CLOSE DET) | | | |
| ********** | | | | | |
| * | 1-658-577-11 | MOTOR (TURN) BOARD<br>********** | | | |
| | | < CAPACITOR > | | | |
| C701 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C702 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C705 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| | | < CONNECTOR > | | | |
| CN703 | 1-750-413-11 | CONNECTOR, FFC/FPC 8P | | | |
| CN704 | 1-506-469-11 | PIN, CONNECTOR 4P | | | |
| | | < DIODE > | | | |
| D701 | 8-719-983-66 | DIODE MTZJ-T-72-3.6B | | | |
| | | < IC > | | | |
| IC701 | 8-759-633-65 | IC M54641L | | | |
| | | < RESISTOR > | | | |
| R706 | 1-249-411-11 | CARBON | 330 | 5% | 1/4W |
| R707 | 1-249-401-11 | CARBON | 47 | 5% | 1/4W |
| ********** | | | | | |
| * | A-4414-025-A | PANEL BOARD, COMPLETE<br>********** | | | |
| * | 4-949-935-21 | CUSHION (FL) | | | |
| * | 4-996-724-01 | HOLDER, FL TUBE | | | |
| | | < CAPACITOR > | | | |
| C601 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C602 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C603 | 1-124-589-11 | ELECT | 47uF | 20% | 16V |
| C604 | 1-126-163-11 | ELECT | 4.7uF | 20% | 50V |
| C605 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| C606 | 1-126-160-11 | ELECT | 1uF | 20% | 50V |
| C607 | 1-126-160-11 | ELECT | 1uF | 20% | 50V |
| C608 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| C609 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C610 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C611 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C612 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |

## PANEL

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C613 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C614 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C615 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C616 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C617 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C618 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C619 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C620 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C621 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C625 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| C626 | 1-124-589-11 | ELECT | 47uF | 20% | 16V |
| C627 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C628 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C629 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C630 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C631 | 1-126-157-11 | ELECT | 10uF | 20% | 16V |
| C632 | 1-126-157-11 | ELECT | 10uF | 20% | 16V |
| C633 | 1-162-303-11 | CERAMIC | 0.0033uF | 30% | 16V |
| C634 | 1-126-157-11 | ELECT | 10uF | 20% | 16V |
| C635 | 1-126-163-11 | ELECT | 4.7uF | 20% | 50V |
| C636 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| C648 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C649 | 1-124-589-11 | ELECT | 47uF | 20% | 16V |
| C749 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C750 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C751 | 1-126-961-11 | ELECT | 2.2uF | 20% | 50V |
| C752 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C753 | 1-162-290-31 | CERAMIC | 470PF | 10% | 50V |
| C754 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C755 | 1-126-961-11 | ELECT | 2.2uF | 20% | 50V |
| C756 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| C757 | 1-162-215-31 | CERAMIC | 47PF | 5% | 50V |
| C758 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C759 | 1-126-956-91 | ELECT | 0.1uF | 20% | 50V |
| C760 | 1-162-215-31 | CERAMIC | 47PF | 5% | 50V |
| C761 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C762 | 1-126-961-11 | ELECT | 2.2uF | 20% | 50V |
| C764 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C765 | 1-126-960-11 | ELECT | 1uF | 20% | 50V |
| C766 | 1-162-305-11 | CERAMIC | 0.0068uF | 20% | 16V |
| C767 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| C768 | 1-136-495-11 | FILM | 0.068uF | 5% | 50V |
| C769 | 1-126-959-11 | ELECT | 0.47uF | 20% | 50V |
| C770 | 1-126-959-11 | ELECT | 0.47uF | 20% | 50V |
| C771 | 1-104-664-11 | ELECT | 47uF | 20% | 25V |
| C772 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C773 | 1-104-664-11 | ELECT | 47uF | 20% | 25V |
| C774 | 1-136-495-11 | FILM | 0.068uF | 5% | 50V |
| C775 | 1-162-305-11 | CERAMIC | 0.0068uF | 20% | 16V |
| C776 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| C777 | 1-136-167-00 | FILM | 0.15uF | 5% | 50V |
| C778 | 1-126-960-11 | ELECT | 1uF | 20% | 50V |
| C779 | 1-161-494-00 | CERAMIC | 0.022uF | | 25V |
| C780 | 1-126-961-11 | ELECT | 2.2uF | 20% | 50V |
| | | < CONNECTOR > | | | |
| * CN601 | 1-568-856-11 | SOCKET, CONNECTOR 13P | | | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | | < DIODE > | |
| D602 | 8-719-986-73 | DIODE RB441Q | |
| D610 | 8-719-063-93 | LED SLR325VC-N-T32 (ENTER/NEXT) | |
| D612 | 8-719-057-97 | LED SEL5923A-TP15 (GROOVE) | |
| D613 | 8-719-063-93 | LED SLR325VC-N-T32 (JOG) | |
| D614 | 8-719-064-65 | LED SELU5723C-TP15 (DJ MIX) | |
| D615 | 8-719-064-65 | LED SELU5723C-TP15 (DJ MIX) | |
| D616 | 8-719-063-93 | LED SLR325VC-N-T32 (CD NON-STOP) | |
| D617 | 8-719-057-97 | LED SEL5923A-TP15 (+, ▶▶) | |
| D618 | 8-719-057-97 | LED SEL5923A-TP15 (-, ◀◀) | |
| D620 | 8-719-063-93 | LED SLR325VC-N-T32 (EFFECT) | |
| D621 | 8-719-056-13 | LED SML79423C-TP15 (CD, ▶II) | |
| D622 | 8-719-058-03 | LED SEL5423E-TP15 (TAPE B, ▶) | |
| D623 | 8-719-058-03 | LED SEL5423E-TP15 (TAPE B, ◀) | |
| D624 | 8-719-058-03 | LED SEL5423E-TP15 (TAPE A, ▶) | |
| D625 | 8-719-058-03 | LED SEL5423E-TP15 (TAPE A, ◀) | |
| D626 | 8-719-057-97 | LED SEL5923A-TP15 (PBC) | |
| D627 | 8-719-057-97 | LED SEL5923A-TP15 (PBC OFF) | |
| D628 | 8-719-057-97 | LED SEL5923A-TP15 (VIDEO CD) | |
| D651 | 8-719-063-93 | LED SLR325VC-N-T32 (● REC) | |
| D652 | 8-719-057-97 | LED SEL5923A-TP15 (II PAUSE) | |
| D751 | 8-719-024-99 | DIODE 11ES2-NTA2B | |
| D752 | 8-719-024-99 | DIODE 11ES2-NTA2B | |
| D753 | 8-719-024-99 | DIODE 11ES2-NTA2B | |
| | | < LEAD > | |
| EL2 | 1-690-880-51 | LEAD (WITH CONNECTOR) | |
| | | < FERRITE BEAD > | |
| FB601 | 1-410-397-21 | FERRITE BEAD INDUCTOR | |
| | | < FLUORESCENT INDICATOR TUBE > | |
| FL601 | 1-517-731-11 | INDICATOR TUBE, FLUORESCENT | |
| | | < IC > | |
| IC601 | 8-759-536-41 | IC TMP87PM74F-6695 | |
| IC602 | 8-749-011-05 | IC GP1U28X | |
| IC603 | 8-759-495-25 | IC BA3833F-E2 | |
| IC750 | 8-759-634-51 | IC M5218AP | |
| IC751 | 8-759-496-41 | IC M65850FP-E1 | |
| | | < JACK > | |
| J750 | 1-785-200-11 | JACK (LARGE TYPE) (MIC2) | |
| J751 | 1-785-200-11 | JACK (LARGE TYPE) (MIC1) | |
| | | < COIL > | |
| L601 | 1-410-509-11 | INDUCTOR 10uH | |
| L751 | 1-410-521-11 | INDUCTOR 100uH | |
| | | < TRANSISTOR > | |
| Q601 | 8-729-118-00 | TRANSISTOR 2SB1116-L | |
| Q602 | 8-729-118-00 | TRANSISTOR 2SB1116-L | |
| Q603 | 8-729-620-05 | TRANSISTOR 2SC2603-EF | |
| Q604 | 8-729-029-68 | TRANSISTOR DTC114TSA | |
| Q607 | 8-729-029-68 | TRANSISTOR DTC114TSA | |
| Q608 | 8-729-029-68 | TRANSISTOR DTC114TSA | |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| Q609 | 8-729-029-68 | TRANSISTOR | DTC114TSA | | |
| Q610 | 8-729-029-68 | TRANSISTOR | DTC114TSA | | |
| Q611 | 8-729-029-68 | TRANSISTOR | DTC114TSA | | |
| Q618 | 8-729-029-68 | TRANSISTOR | DTC114TSA | | |
| Q620 | 8-729-029-68 | TRANSISTOR | DTC114TSA | | |
| Q621 | 8-729-029-68 | TRANSISTOR | DTC114TSA | | |
| | | < RESISTOR > | | | |
| R601 | 1-247-903-00 | CARBON | 1M | 5% | 1/4W |
| R602 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R604 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R605 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R606 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R607 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R608 | 1-247-843-11 | CARBON | 3.3K | 5% | 1/4W |
| R609 | 1-247-843-11 | CARBON | 3.3K | 5% | 1/4W |
| R610 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R611 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R612 | 1-249-401-11 | CARBON | 47 | 5% | 1/4W |
| R613 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W |
| R614 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R615 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R616 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R618 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R619 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R620 | 1-247-895-00 | CARBON | 470K | 5% | 1/4W |
| R621 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W |
| R622 | 1-249-412-11 | CARBON | 390 | 5% | 1/4W |
| R623 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W |
| R624 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W |
| R625 | 1-249-416-11 | CARBON | 820 | 5% | 1/4W |
| R626 | 1-249-418-11 | CARBON | 1.2K | 5% | 1/4W |
| R627 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R628 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R629 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R630 | 1-249-424-11 | CARBON | 3.9K | 5% | 1/4W |
| R631 | 1-249-426-11 | CARBON | 5.6K | 5% | 1/4W |
| R632 | 1-249-428-11 | CARBON | 8.2K | 5% | 1/4W |
| R633 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W |
| R634 | 1-249-432-11 | CARBON | 18K | 5% | 1/4W |
| R636 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W |
| R637 | 1-249-412-11 | CARBON | 390 | 5% | 1/4W |
| R638 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W |
| R639 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W |
| R640 | 1-249-416-11 | CARBON | 820 | 5% | 1/4W |
| R641 | 1-249-418-11 | CARBON | 1.2K | 5% | 1/4W |
| R642 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R643 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R644 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R645 | 1-249-424-11 | CARBON | 3.9K | 5% | 1/4W |
| R646 | 1-249-426-11 | CARBON | 5.6K | 5% | 1/4W |
| R647 | 1-249-428-11 | CARBON | 8.2K | 5% | 1/4W |
| R648 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W |
| R649 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W |
| R650 | 1-249-412-11 | CARBON | 390 | 5% | 1/4W |
| R651 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W |
| R652 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W |
| R653 | 1-249-416-11 | CARBON | 820 | 5% | 1/4W |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R654 | 1-249-418-11 | CARBON | 1.2K | 5% | 1/4W |
| R655 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R661 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R662 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R663 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R664 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R665 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R666 | 1-249-407-11 | CARBON | 150 | 5% | 1/4W |
| R667 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R668 | 1-249-407-11 | CARBON | 150 | 5% | 1/4W |
| R669 | 1-247-804-11 | CARBON | 75 | 5% | 1/4W |
| R670 | 1-249-407-11 | CARBON | 150 | 5% | 1/4W |
| R671 | 1-249-407-11 | CARBON | 150 | 5% | 1/4W |
| R672 | 1-249-407-11 | CARBON | 150 | 5% | 1/4W |
| R673 | 1-249-407-11 | CARBON | 150 | 5% | 1/4W |
| R674 | 1-247-804-11 | CARBON | 75 | 5% | 1/4W |
| R675 | 1-247-804-11 | CARBON | 75 | 5% | 1/4W |
| R676 | 1-247-804-11 | CARBON | 75 | 5% | 1/4W |
| R677 | 1-247-804-11 | CARBON | 75 | 5% | 1/4W |
| R678 | 1-247-804-11 | CARBON | 75 | 5% | 1/4W |
| R679 | 1-247-804-11 | CARBON | 75 | 5% | 1/4W |
| R680 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R681 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R682 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R683 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R684 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R685 | 1-247-804-11 | CARBON | 75 | 5% | 1/4W |
| R725 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W |
| R726 | 1-249-412-11 | CARBON | 390 | 5% | 1/4W |
| R727 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W |
| R728 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W |
| R729 | 1-249-416-11 | CARBON | 820 | 5% | 1/4W |
| R730 | 1-249-418-11 | CARBON | 1.2K | 5% | 1/4W |
| R731 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R732 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R733 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R742 | 1-249-407-11 | CARBON | 150 | 5% | 1/4W |
| R743 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R750 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R751 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R752 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R753 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R754 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R755 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R756 | 1-247-886-11 | CARBON | 200K | 5% | 1/4W |
| R757 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R758 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R759 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R760 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R761 | 1-247-881-00 | CARBON | 120K | 5% | 1/4W |
| R762 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R763 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R764 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R765 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R766 | 1-249-431-11 | CARBON | 15K | 5% | 1/4W |
| R767 | 1-249-431-11 | CARBON | 15K | 5% | 1/4W |
| R768 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R769 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |

# PANEL | POWER AMP

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | | < VARIABLE RESISTOR > | |
| RV750 | 1-225-574-11 | RES, VAR, CARBON 50K (MIC LEVEL) | |
| RV751 | 1-225-574-11 | RES, VAR, CARBON 50K (ECHO LEVEL) | |
| | | < SWITCH > | |
| S601 | 1-473-534-11 | ENCODER, ROTARY (I◀◀ ⟷ ▶▶I, DJ MIX (JOG)) | |
| S602 | 1-473-392-11 | ENCODER, ROTARY (VOLUME) | |
| S604 | 1-762-875-21 | SWITCH, KEYBOARD (EFFECT) | |
| S605 | 1-762-875-21 | SWITCH, KEYBOARD (SURROUND) | |
| S606 | 1-762-875-21 | SWITCH, KEYBOARD (KARAOKE PON/MPX) | |
| S607 | 1-762-875-21 | SWITCH, KEYBOARD (■) | |
| S608 | 1-762-875-21 | SWITCH, KEYBOARD (TIMER SELECT) | |
| S609 | 1-762-875-21 | SWITCH, KEYBOARD (CLOCK/TIMER SET) | |
| S610 | 1-762-875-21 | SWITCH, KEYBOARD (DISPLAY/DEMO) | |
| S611 | 1-762-875-21 | SWITCH, KEYBOARD (FILE SELECT) | |
| S612 | 1-762-875-21 | SWITCH, KEYBOARD (GEQ CONTROL) | |
| S613 | 1-762-875-21 | SWITCH, KEYBOARD (P FILE MEMORY) | |
| S614 | 1-762-875-21 | SWITCH, KEYBOARD (FUNCTION) | |
| S615 | 1-762-875-21 | SWITCH, KEYBOARD (EDIT, DIRECTION) | |
| S616 | 1-762-875-21 | SWITCH, KEYBOARD (PLAY MODE, DOLBY NR) | |
| S617 | 1-762-875-21 | SWITCH, KEYBOARD (CD REPEAT) | |
| S618 | 1-762-875-21 | SWITCH, KEYBOARD (CD LOOP) | |
| S619 | 1-762-875-21 | SWITCH, KEYBOARD (CD FLASH) | |
| S620 | 1-762-875-21 | SWITCH, KEYBOARD (NON-STOP) | |
| S621 | 1-762-875-21 | SWITCH, KEYBOARD (-, ◀◀) | |
| S622 | 1-762-875-21 | SWITCH, KEYBOARD (ENTER/NEXT) | |
| S623 | 1-762-875-21 | SWITCH, KEYBOARD (+, ▶▶) | |
| S624 | 1-762-875-21 | SWITCH, KEYBOARD (DBFB) | |
| S625 | 1-762-875-21 | SWITCH, KEYBOARD (GROOVE) | |
| S626 | 1-762-875-21 | SWITCH, KEYBOARD (ACTIVE) | |
| S627 | 1-762-875-21 | SWITCH, KEYBOARD (SELECT) | |
| S628 | 1-762-875-21 | SWITCH, KEYBOARD (RETURN) | |
| S629 | 1-762-875-21 | SWITCH, KEYBOARD (PREV) | |
| S630 | 1-762-875-21 | SWITCH, KEYBOARD (NEXT) | |
| S631 | 1-762-875-21 | SWITCH, KEYBOARD (TUNER, BAND) | |
| S632 | 1-762-875-21 | SWITCH, KEYBOARD (CD, ▶II) | |
| S633 | 1-762-875-21 | SWITCH, KEYBOARD (TAPE B, ►) | |
| S634 | 1-762-875-21 | SWITCH, KEYBOARD (TAPE B, ◄) | |
| S635 | 1-762-875-21 | SWITCH, KEYBOARD (TAPE A, ►) | |
| S636 | 1-762-875-21 | SWITCH, KEYBOARD (TAPE A, ◄) | |
| S656 | 1-762-875-21 | SWITCH, KEYBOARD (● REC) | |
| S657 | 1-762-875-21 | SWITCH, KEYBOARD (II PAUSE) | |
| S658 | 1-762-875-21 | SWITCH, KEYBOARD (HI-DUB) | |
| S659 | 1-762-875-21 | SWITCH, KEYBOARD (CD SYNC) | |
| | | < VIBRATOR > | |
| X601 | 1-579-952-21 | VIBRATOR, CERAMIC (8MHz) | |
| ********** | | | |
| * | A-4414-022-A | POWER AMP BOARD, COMPLETE (EXCEPT CH) | |
| * | A-4414-875-A | POWER AMP BOARD, COMPLETE (CH) | |
| | | ********** | |
| | 7-685-646-79 | SCREW +BVTP 3X8 TYPE2 N-S | |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| | | < CAPACITOR > | | | |
| C801 | 1-126-963-11 | ELECT | 4.7uF | 20% | 50V |
| C802 | 1-162-286-31 | CERAMIC | 220PF | 10% | 50V |
| C803 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C804 | 1-104-664-11 | ELECT | 47uF | 20% | 10V |
| C806 | 1-126-967-11 | ELECT | 47uF | 20% | 50V |
| C807 | 1-128-560-11 | ELECT | 22uF | 20% | 100V |
| C809 | 1-128-560-11 | ELECT | 22uF | 20% | 100V |
| C810 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C811 | 1-136-495-11 | FILM | 0.068uF | 5% | 50V |
| C812 | 1-136-495-11 | FILM | 0.068uF | 5% | 50V |
| C813 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C814 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V (CH) |
| C841 | 1-130-777-00 | FILM | 0.1uF | 10% | 100V |
| C842 | 1-128-493-11 | ELECT | 4700uF | 20% | 71V |
| C843 | 1-126-934-11 | ELECT | 220uF | 20% | 10V |
| C851 | 1-126-963-11 | ELECT | 4.7uF | 20% | 50V |
| C852 | 1-162-286-31 | CERAMIC | 220PF | 10% | 50V |
| C853 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C854 | 1-104-664-11 | ELECT | 47uF | 20% | 10V |
| C856 | 1-126-967-11 | ELECT | 47uF | 20% | 50V |
| C857 | 1-128-560-11 | ELECT | 22uF | 20% | 100V |
| C861 | 1-136-495-11 | FILM | 0.068uF | 5% | 50V |
| C862 | 1-136-495-11 | FILM | 0.068uF | 5% | 50V |
| C891 | 1-130-777-00 | FILM | 0.1uF | 10% | 100V |
| C892 | 1-128-493-11 | ELECT | 4700uF | 20% | 71V |
| | | < CONNECTOR > | | | |
| CN801 | 1-778-981-11 | CONNECTOR, BOARD TO BOARD 13P | | | |
| | | < DIODE > | | | |
| D800 | 8-719-302-38 | DIODE RBV-602-01 | | | |
| D801 | 8-719-911-19 | DIODE 1SS119 | | | |
| D841 | 8-719-911-19 | DIODE 1SS119 | | | |
| D842 | 8-719-911-19 | DIODE 1SS119 | | | |
| D843 | 8-719-911-19 | DIODE 1SS119 | | | |
| D851 | 8-719-911-19 | DIODE 1SS119 | | | |
| | | < IC > | | | |
| IC801 | 8-749-921-68 | IC STK-4231MK2 | | | |
| | | < TRANSISTOR > | | | |
| Q801 | 8-729-140-84 | TRANSISTOR 2SC1841-PAFAEA | | | |
| Q831 | 8-729-029-86 | TRANSISTOR DTC124ESA | | | |
| Q832 | 8-729-140-84 | TRANSISTOR 2SC1841-PAFAEA | | | |
| Q851 | 8-729-140-84 | TRANSISTOR 2SC1841-PAFAEA | | | |
| | | < RESISTOR > | | | |
| R801 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R802 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R803 | 1-249-412-11 | CARBON | 390 | 5% | 1/4W |
| R804 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R805 | 1-260-107-11 | CARBON | 4.7K | 5% | 1/2W |
| R806 | 1-260-107-11 | CARBON | 4.7K | 5% | 1/2W |
| ⚠R807 | 1-212-881-11 | FUSIBLE | 100 | 5% | 1/4W F |
| ⚠R808 | 1-220-893-11 | METAL | 0.22 | 10% | 5W F |

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R809 | 1-260-076-11 | CARBON | 10 | 5% | 1/2W |
| R811 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R812 | 1-249-431-11 | CARBON | 15K | 5% | 1/4W |
| R813 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R814 | 1-260-105-11 | CARBON | 3.3K | 5% | 1/2W |
| R816 | 1-260-105-11 | CARBON | 3.3K | 5% | 1/2W |
| ⚠R820 | 1-202-972-61 | FUSIBLE | 1 | 5% | 1/4W F |
| R831 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R832 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R833 | 1-247-881-00 | CARBON | 120K | 5% | 1/4W |
| R841 | 1-249-428-11 | CARBON | 8.2K | 5% | 1/4W |
| R842 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R843 | 1-247-895-00 | CARBON | 470K | 5% | 1/4W |
| R844 | 1-249-428-11 | CARBON | 8.2K | 5% | 1/4W |
| R851 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R852 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R853 | 1-249-412-11 | CARBON | 390 | 5% | 1/4W |
| R854 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R855 | 1-260-107-11 | CARBON | 4.7K | 5% | 1/2W |
| R856 | 1-260-107-11 | CARBON | 4.7K | 5% | 1/2W |
| ⚠R857 | 1-212-881-11 | FUSIBLE | 100 | 5% | 1/4W F |
| ⚠R858 | 1-220-893-11 | METAL | 0.22 | 10% | 5W F |
| R859 | 1-260-076-11 | CARBON | 10 | 5% | 1/2W |
| R861 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R862 | 1-249-431-11 | CARBON | 15K | 5% | 1/4W |
| R863 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| | | < THERMISTOR > | | | |
| TH831 | 1-807-796-11 | THERMISTOR | | | |

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| | | | | | |
|---|---|---|---|---|---|
| * | 1-658-576-11 | SENSOR BOARD | | | |
| | | ********** | | | |
| | | < PHOTO INTERRUPTER/REFLECTOR > | | | |
| IC702 | 8-749-924-18 | PHOTO INTERRUPTER RPI-1391 | | | |
| IC703 | 8-749-924-30 | PHOTO REFLECTOR GP2S28 | | | |
| | | < RESISTOR > | | | |
| R701 | 1-249-416-11 | CARBON | 820 | 5% | 1/4W |
| R702 | 1-249-407-11 | CARBON | 150 | 5% | 1/4W |

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| | | | | | |
|---|---|---|---|---|---|
| * | 1-670-069-11 | TRANSFORMER BOARD | | | |
| | | ********** | | | |
| | 1-533-217-31 | HOLDER, FUSE | | | |
| | | < CONNECTOR > | | | |
| CN11 | 1-564-523-11 | PLUG, CONNECTOR 8P | | | |
| * CN12 | 1-564-518-11 | PLUG, CONNECTOR 3P | | | |
| CN13 | 1-564-321-00 | PIN, CONNECTOR 2P | | | |
| | | < FUSE > | | | |
| ⚠F11 | 1-532-464-31 | FUSE (T2.5AL/250V) | | | |
| ⚠F12 | 1-532-505-31 | FUSE (T5AL/250V) (EXCEPT TH, CH) | | | |
| | | < RESISTOR > | | | |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| ⚠R11 | 1-219-119-81 | FUSIBLE | 0.1 | 5% | 1/4W F (CH) |
| ⚠R11 | 1-219-120-11 | FUSIBLE | 0.15 | 5% | 1/4W F (EXCEPT CH) |
| ⚠R12 | 1-219-119-81 | FUSIBLE | 0.1 | 5% | 1/4W F (CH) |
| ⚠R12 | 1-219-120-11 | FUSIBLE | 0.15 | 5% | 1/4W F (EXCEPT CH) |
| ⚠R13 | 1-219-119-81 | FUSIBLE | 0.1 | 5% | 1/4W F (CH) |
| ⚠R13 | 1-219-120-11 | FUSIBLE | 0.15 | 5% | 1/4W F (EXCEPT CH) |
| ⚠R14 | 1-219-119-81 | FUSIBLE | 0.1 | 5% | 1/4W F (CH) |
| ⚠R14 | 1-219-120-11 | FUSIBLE | 0.15 | 5% | 1/4W F (EXCEPT CH) |
| | | < SWITCH > | | | |
| ⚠S11 | 1-572-675-11 | SWITCH, POWER VOLTAGE CHANGE (VOLTAGE SELECTOR) (EXCEPT TH, CH) | | | |
| | | < TRANSFORMER > | | | |
| ⚠T11 | 1-431-829-11 | TRANSFORMER, POWER (EXCEPT CH) | | | |
| ⚠T11 | 1-433-439-11 | TRANSFORMER, POWER (CH) | | | |

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| | | | | | |
|---|---|---|---|---|---|
| * | A-4414-186-A | VIDEO BOARD, COMPLETE (EXCEPT CH) | | | |
| * | A-4724-279-A | VIDEO BOARD, COMPLETE (CH) | | | |
| | | ********** | | | |
| | | < CAPACITOR/SHORT > | | | |
| C101 | 1-124-778-00 | ELECT CHIP | 22uF | 20% | 6.3V |
| C102 | 1-163-143-00 | CERAMIC CHIP | 0.0012uF | 5% | 50V |
| C103 | 1-163-017-00 | CERAMIC CHIP | 0.0047uF | 5% | 50V |
| C104 | 1-126-206-11 | ELECT CHIP | 100uF | 20% | 6.3V |
| C201 | 1-124-778-00 | ELECT CHIP | 22uF | 20% | 6.3V |
| C202 | 1-163-143-00 | CERAMIC CHIP | 0.0012uF | 5% | 50V |
| C203 | 1-163-017-00 | CERAMIC CHIP | 0.0047uF | 5% | 50V |
| C301 | 1-163-127-00 | CERAMIC CHIP | 270PF | 5% | 50V |
| C302 | 1-163-127-00 | CERAMIC CHIP | 270PF | 5% | 50V |
| C303 | 1-163-235-11 | CERAMIC CHIP | 22PF | 5% | 50V |
| C304 | 1-163-235-11 | CERAMIC CHIP | 22PF | 5% | 50V |
| C305 | 1-163-263-11 | CERAMIC CHIP | 330PF | 5% | 50V |
| C306 | 1-163-263-11 | CERAMIC CHIP | 330PF | 5% | 50V |
| C310 | 1-163-137-00 | CERAMIC CHIP | 680PF | 5% | 50V |
| C311 | 1-216-295-00 | SHORT | 0 | | |
| C313 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C314 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C318 | 1-124-778-00 | ELECT CHIP | 22uF | 20% | 6.3V |
| C319 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C401 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C402 | 1-124-778-00 | ELECT CHIP | 22uF | 20% | 6.3V |
| C403 | 1-124-778-00 | ELECT CHIP | 22uF | 20% | 6.3V |
| C404 | 1-126-206-11 | ELECT CHIP | 100uF | 20% | 6.3V |
| C405 | 1-110-530-11 | ELECT CHIP | 1000uF | 20% | 6.3V |
| C406 | 1-110-530-11 | ELECT CHIP | 1000uF | 20% | 6.3V |
| C407 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V (FORMER TYPE) (*NOTE) |
| C408 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |

*NOTE
When replacing IC502, refer to "IC502 of VIDEO board" in "Servicing Notes" (Page 4).

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

# VIDEO

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| | | | | | (FORMER TYPE) (*NOTE) |
| C409 | 1-124-778-00 | ELECT CHIP | 22uF | 20% | 6.3V |
| C410 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C411 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C412 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C413 | 1-124-778-00 | ELECT CHIP | 22uF | 20% | 6.3V |
| C452 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C501 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C502 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C503 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C504 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C505 | 1-126-206-11 | ELECT CHIP | 100uF | 20% | 6.3V |
| C506 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C507 | 1-126-206-11 | ELECT CHIP | 100uF | 20% | 6.3V |
| C509 | 1-163-275-11 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C510 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C531 | 1-126-206-11 | ELECT CHIP | 100uF | 20% | 6.3V |
| C532 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C535 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C536 | 1-126-193-11 | ELECT CHIP | 1uF | 20% | 50V |
| C537 | 1-126-206-11 | ELECT CHIP | 100uF | 20% | 6.3V |
| C539 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C540 | 1-126-206-11 | ELECT CHIP | 100uF | 20% | 6.3V |
| C541 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C542 | 1-126-206-11 | ELECT CHIP | 100uF | 20% | 6.3V |
| C543 | 1-126-206-11 | ELECT CHIP | 100uF | 20% | 6.3V |
| C544 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C545 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C546 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C547 | 1-126-193-11 | ELECT CHIP | 1uF | 20% | 50V |
| C548 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C549 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C550 | 1-163-275-11 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C551 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C552 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C553 | 1-126-206-11 | ELECT CHIP | 100uF | 20% | 6.3V |
| C555 | 1-124-779-00 | ELECT CHIP | 10uF | 20% | 16V |
| C556 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C559 | 1-126-206-11 | ELECT CHIP | 100uF | 20% | 6.3V |
| C560 | 1-163-235-11 | CERAMIC CHIP | 22PF | 5% | 50V |
| C561 | 1-163-099-00 | CERAMIC CHIP | 18PF | 5% | 50V |
| C562 | 1-163-235-11 | CERAMIC CHIP | 22PF | 5% | 50V |
| C563 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C564 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C565 | 1-126-206-11 | ELECT CHIP | 100uF | 20% | 6.3V |
| C566 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C568 | 1-126-206-11 | ELECT CHIP | 100uF | 20% | 6.3V |
| C569 | 1-126-206-11 | ELECT CHIP | 100uF | 20% | 6.3V |
| C570 | 1-126-206-11 | ELECT CHIP | 100uF | 20% | 6.3V |
| C571 | 1-128-065-11 | ELECT CHIP | 68uF | 20% | 10V |
| C573 | 1-163-235-11 | CERAMIC CHIP | 22PF | 5% | 50V |
| C574 | 1-163-235-11 | CERAMIC CHIP | 22PF | 5% | 50V |
| C576 | 1-163-235-11 | CERAMIC CHIP | 22PF | 5% | 50V |
| C577 | 1-163-235-11 | CERAMIC CHIP | 22PF | 5% | 50V |
| | | < CONNECTOR > | | | |
| CN501 | 1-770-706-11 | CONNECTOR, FFC/FPC 23P | | | |
| CN503 | 1-779-416-11 | CONNECTOR,FFC(LIF(NON-ZIF))13P | | | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | | < TRIMMER > | |
| CT503 | 1-141-539-11 | CAP, ADJ 10PF | |
| | | < DIODE > | |
| D301 | 8-719-054-23 | DIODE RB706D-40-T146 | |
| D501 | 8-719-422-12 | DIODE MA8039 | |
| D502 | 8-719-018-51 | DIODE CL-170R-CD | |
| | | < IC > | |
| IC101 | 8-759-701-39 | IC NJM3404AM | |
| IC401 | 8-759-262-00 | IC MC14576CF | |
| IC402 | 8-759-535-49 | IC M38513M4-050FP | (FORMER TYPE) (*NOTE) |
| IC501 | 8-759-269-92 | IC SN74HCU04ANS-E20 | |
| IC502 | 8-759-535-47 | IC M30620MC-302FP | (FORMER TYPE) (*NOTE) |
| IC502 | 8-759-549-26 | IC M30620-305FP (NEW TYPE) (*NOTE) | |
| IC504 | 8-759-269-92 | IC SN74HCU04ANS-E20 | |
| IC505 | 8-759-535-48 | IC CL680T-D1 | |
| IC506 | 8-759-535-61 | IC LC372100PM-H95 | |
| IC507 | 8-759-342-01 | IC MB814260-70PJER | |
| IC509 | 8-759-535-62 | IC PCM1727E-2/T2 | |
| | | < JACK > | |
| J301 | 1-537-943-11 | TERMINAL, S (S VIDEO OUT) | |
| J302 | 1-774-227-11 | JACK, PIN 1P (VIDEO OUT) | |
| | | < SHORT > | |
| JW101 | 1-216-295-00 | SHORT 0 | |
| JW201 | 1-216-295-00 | SHORT 0 | |
| JW401 | 1-216-295-00 | SHORT 0 | |
| JW402 | 1-216-295-00 | SHORT 0 | |
| JW403 | 1-216-295-00 | SHORT 0 | |
| JW404 | 1-216-295-00 | SHORT 0 | |
| JW405 | 1-216-295-00 | SHORT 0 | |
| JW413 | 1-216-295-00 | SHORT 0 | |
| JW421 | 1-216-295-00 | SHORT 0 (NEW TYPE) (*NOTE) | |
| JW422 | 1-216-295-00 | SHORT 0 (NEW TYPE) (*NOTE) | |
| JW502 | 1-216-295-00 | SHORT 0 | |
| JW503 | 1-216-295-00 | SHORT 0 | |
| JW504 | 1-216-295-00 | SHORT 0 | |
| JW505 | 1-216-295-00 | SHORT 0 | |
| | | < COIL/SHORT > | |
| L301 | 1-410-372-21 | INDUCTOR CHIP 1.8uH | |
| L302 | 1-410-372-21 | INDUCTOR CHIP 1.8uH | |
| L501 | 1-216-296-00 | SHORT 0 | |
| L502 | 1-216-296-00 | SHORT 0 | |
| L503 | 1-216-296-00 | SHORT 0 (EXCEPT CH) | |
| L503 | 1-410-370-41 | INDUCTOR CHIP 1.2uH (CH) | |
| L504 | 1-410-375-11 | INDUCTOR CHIP 3.3uH | |
| L505 | 1-216-296-00 | SHORT 0 | |
| L506 | 1-216-296-00 | SHORT 0 | |
| L507 | 1-216-296-00 | SHORT 0 | |
| L508 | 1-216-296-00 | SHORT 0 | |
| L509 | 1-216-296-00 | SHORT 0 | |

*NOTE
When replacing IC502, refer to “IC502 of VIDEO board” in “Servicing Notes” (Page 4).

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| L510 | 1-216-296-00 | SHORT | 0 | | |
| | | < TRANSISTOR > | | | |
| Q301 | 8-729-024-91 | TRANSISTOR | 2SC2712-GL-TE85L | | |
| Q302 | 8-729-024-91 | TRANSISTOR | 2SC2712-GL-TE85L | | |
| Q303 | 8-729-024-91 | TRANSISTOR | 2SC2712-GL-TE85L | | |
| Q304 | 8-729-024-91 | TRANSISTOR | 2SC2712-GL-TE85L | | |
| Q306 | 8-729-027-60 | TRANSISTOR | DTC144TKA-T146 | | |
| Q307 | 8-729-024-91 | TRANSISTOR | 2SC2712-GL-TE85L | | |
| Q308 | 8-729-024-91 | TRANSISTOR | 2SC2712-GL-TE85L | | |
| Q310 | 8-729-024-91 | TRANSISTOR | 2SC2712-GL-TE85L | | |
| Q453 | 8-729-216-22 | TRANSISTOR | 2SA1162-G | | |
| Q454 | 8-729-216-22 | TRANSISTOR | 2SA1162-G | | |
| Q502 | 8-729-024-91 | TRANSISTOR | 2SC2712-GL-TE85L | | |
| Q531 | 8-729-140-75 | TRANSISTOR | 2SD999-CLCK | | |
| | | < RESISTOR > | | | |
| R101 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R102 | 1-208-441-61 | RES,CHIP | 1.5K | 2% | 1/10W |
| R103 | 1-208-441-61 | RES,CHIP | 1.5K | 2% | 1/10W |
| R105 | 1-216-295-00 | SHORT | 0 | | |
| R201 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R202 | 1-208-441-61 | RES,CHIP | 1.5K | 2% | 1/10W |
| R203 | 1-208-441-61 | RES,CHIP | 1.5K | 2% | 1/10W |
| R205 | 1-216-295-00 | SHORT | 0 | | |
| R301 | 1-216-624-11 | METAL CHIP | 75 | 0.5% | 1/10W |
| R302 | 1-216-624-11 | METAL CHIP | 75 | 0.5% | 1/10W |
| R305 | 1-216-049-11 | RES,CHIP | 1K | 5% | 1/10W |
| R306 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R307 | 1-216-049-11 | RES,CHIP | 1K | 5% | 1/10W |
| R308 | 1-216-049-11 | RES,CHIP | 1K | 5% | 1/10W |
| R309 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R312 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R313 | 1-216-049-11 | RES,CHIP | 1K | 5% | 1/10W |
| R314 | 1-216-049-11 | RES,CHIP | 1K | 5% | 1/10W |
| R315 | 1-216-047-00 | RES,CHIP | 820 | 5% | 1/10W |
| R316 | 1-216-657-11 | METAL CHIP | 1.8K | 0.5% | 1/10W |
| R317 | 1-216-683-11 | METAL CHIP | 22K | 0.5% | 1/10W |
| R318 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R319 | 1-216-049-11 | RES,CHIP | 1K | 5% | 1/10W |
| R320 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R321 | 1-216-049-11 | RES,CHIP | 1K | 5% | 1/10W |
| R324 | 1-216-022-00 | METAL CHIP | 75 | 5% | 1/10W |
| R325 | 1-216-295-00 | SHORT | 0 | | |
| R327 | 1-216-049-11 | RES,CHIP | 1K | 5% | 1/10W |
| R328 | 1-216-655-11 | METAL CHIP | 1.5K | 0.5% | 1/10W |
| R329 | 1-216-649-11 | METAL CHIP | 820 | 0.5% | 1/10W |
| R332 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R333 | 1-216-046-00 | METAL CHIP | 750 | 5% | 1/10W |
| R335 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R336 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R340 | 1-216-022-00 | METAL CHIP | 75 | 5% | 1/10W |
| R341 | 1-216-121-00 | RES,CHIP | 1M | 5% | 1/10W |
| R342 | 1-216-022-00 | METAL CHIP | 75 | 5% | 1/10W |
| R403 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R404 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R405 | 1-216-065-00 | RES,CHIP | 4.7K | 5% | 1/10W |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R406 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R407 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R408 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R409 | 1-216-049-11 | RES,CHIP | 1K | 5% | 1/10W |
| R410 | 1-216-049-11 | RES,CHIP | 1K | 5% | 1/10W |
| R411 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R412 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R413 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W (FORMER TYPE) (*NOTE) |
| R414 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R415 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R421 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W (FORMER TYPE) (*NOTE) |
| R422 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W (FORMER TYPE) (*NOTE) |
| R423 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R424 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R425 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R426 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R457 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R458 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R459 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R461 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R462 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R463 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R464 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R501 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R502 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R503 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R504 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R505 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R506 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R507 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R508 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R509 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R510 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R511 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R512 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R513 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R514 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R516 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R517 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R518 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R519 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R520 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R523 | 1-216-013-00 | METAL CHIP | 33 | 5% | 1/10W |
| R530 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R531 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R532 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R533 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R534 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R535 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R536 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R537 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R538 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R542 | 1-216-049-11 | RES,CHIP | 1K | 5% | 1/10W |
| R543 | 1-216-685-11 | METAL CHIP | 27K | 0.5% | 1/10W |
| R544 | 1-216-659-11 | METAL CHIP | 2.2K | 0.5% | 1/10W |
| R545 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |

*NOTE
When replacing IC502, refer to "IC502 of VIDEO board" in "Servicing Notes" (Page 4).

## VIDEO

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R546 | 1-216-049-11 | RES,CHIP | 1K | 5% | 1/10W |
| R547 | 1-216-295-00 | SHORT | 0 | | |
| R548 | 1-216-049-11 | RES,CHIP | 1K | 5% | 1/10W |
| R549 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R550 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R551 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R552 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R554 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W (EXCEPT CH) |
| R554 | 1-216-029-00 | RES,CHIP | 150 | 5% | 1/10W (CH) |
| R555 | 1-216-121-00 | RES,CHIP | 1M | 5% | 1/10W |
| R556 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R557 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R558 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R559 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R560 | 1-216-051-00 | METAL CHIP | 1.2K | 5% | 1/10W |
| R561 | 1-216-049-11 | RES,CHIP | 1K | 5% | 1/10W |
| R562 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W (FORMER TYPE) (*NOTE) |
| R563 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R564 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R565 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R566 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R567 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R568 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R569 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R572 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R573 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R574 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R577 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R578 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R579 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R580 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W (EXCEPT CH) |
| R581 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W (CH) |
| | | < SWITCH > | | | |
| S501 | 1-571-395-11 | SWITCH, SLIDE (SYSTEM SELECT) | | | |
| | | < VIBRATOR > | | | |
| X401 | 1-767-261-21 | VIBRATOR, CERAMIC (8MHz) (FORMER TYPE) (*NOTE) | | | |
| X501 | 1-767-510-11 | VIBRATOR, CERAMIC (10MHz) | | | |
| X503 | 1-767-519-11 | VIBRATOR, CRYSTAL (27MHz) | | | |

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MISCELLANEOUS
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| | | |
|---|---|---|
| 6 | 1-769-984-11 | WIRE (FLAT TYPE) (13 CORE) (23cm) |
| 10 | 1-773-048-11 | WIRE (FLAT TYPE) (17 CORE) |
| 11 | 1-773-025-11 | WIRE (FLAT TYPE) (15 CORE) (33cm) |
| 106 | 1-775-212-11 | WIRE (FLAT TYPE) (23 CORE) |
| 108 | 1-773-008-11 | WIRE (FLAT TYPE) (15 CORE) (14cm) |
| 109 | 1-233-545-11 | ENCAPSULATED COMPONENT (TH) |
| 109 | 1-693-381-11 | TUNER (FM/AM) (CH) |
| 109 | 1-693-421-11 | TUNER (FM/AM) (EXCEPT TH, CH) |
| ⚠114 | 1-575-651-11 | CORD, POWER (EA, MY, SP, HK, TW) |
| ⚠114 | 1-575-653-11 | CORD, POWER (IA, TH, JE) |
| ⚠114 | 1-782-464-21 | CORD, POWER (CH) |
| ⚠115 | 1-569-007-11 | ADAPTOR, CONVERSION 2P (IA, JE) |
| ⚠115 | 1-569-008-21 | ADAPTOR, CONVERSION 2P (EA, MY, SP, TW) |
| ⚠115 | 1-770-019-11 | ADAPTOR, CONVERSION PLUG 3P (HK) |
| 116 | 1-751-688-11 | WIRE (FLAT TYPE) (13 CORE) (17cm) |
| 257 | 1-452-925-11 | MAGNET ASSY |
| 258 | 1-776-042-11 | WIRE (FLAT TYPE) (8 CORE) |
| ⚠301 | 8-820-020-02 | OPTICAL PICK-UP KSS-213D/Q-NP |
| 302 | 1-769-069-11 | WIRE (FLAT TYPE) (16 CORE) |
| HP101 | A-2056-681-A | DECK (A) ASSY, HEAD (230AWR1) |
| HP101 | A-2056-683-A | DECK (A) ASSY, HEAD (230PWR1) |
| HRPE101 | A-2056-682-A | DECK (B) ASSY, HEAD (230AWR1) |
| HRPE101 | A-2056-684-A | DECK (B) ASSY, HEAD (230PWR1) |
| M1 | A-2004-628-A | MOTOR ASSY, CAPSTAN |
| M101 | A-4917-523-A | MOTOR ASSY (SPINDLE) |
| M102 | A-4917-504-A | MOTOR ASSY (SLED) |
| M401 | 1-763-048-21 | FAN, D.C. |
| M701 | A-4672-004-A | MOTOR ASSY (TURN) |
| M801 | A-4672-004-A | MOTOR ASSY (SLIDE) |
| S811 | 1-473-335-11 | ENCODER, ROTARY (BU, TRAY ADDRESS DET) |
| ⚠T11 | 1-431-829-11 | TRANSFORMER, POWER (EXCEPT CH) |
| ⚠T11 | 1-433-439-11 | TRANSFORMER, POWER (CH) |

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HARDWARE LIST
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| | | |
|---|---|---|
| #1 | 7-685-872-09 | SCREW +BVTT 3X8 (S) |
| #2 | 7-685-646-79 | SCREW +BVTP 3X8 TYPE2 N-S |
| #3 | 7-685-647-01 | SCREW +BVTP 3X10 TYPE1 (JE) |
| #3 | 7-685-647-79 | SCREW +BVTP 3X10 TYPE2 N-S (EXCEPT JE) |
| #4 | 7-685-650-79 | SCREW +BVTP 3X16 TYPE2 IT-3 |
| #5 | 7-685-871-01 | SCREW +BVTT 3X6 (S) |
| #7 | 7-685-851-04 | SCREW +BVTT 2X4 (S) |
| #8 | 7-621-775-10 | SCREW +B 2.6X4 |
| #9 | 7-621-255-15 | SCREW +P 2X3 |
| #10 | 7-685-850-04 | SCREW +BVTT 2X3 (S) |
| #11 | 7-628-254-15 | SCREW +PS 2.6X6 |
| #12 | 7-628-254-50 | SCREW +PS 2.6X16 |

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

*NOTE
When replacing IC502, refer to “IC502 of VIDEO board” in “Servicing Notes” (Page 4).



98F057025-1D
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Published by Quality Assurance Dept.
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